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Wisconsin Timber Industry—An Assessment of Timber Output Trends

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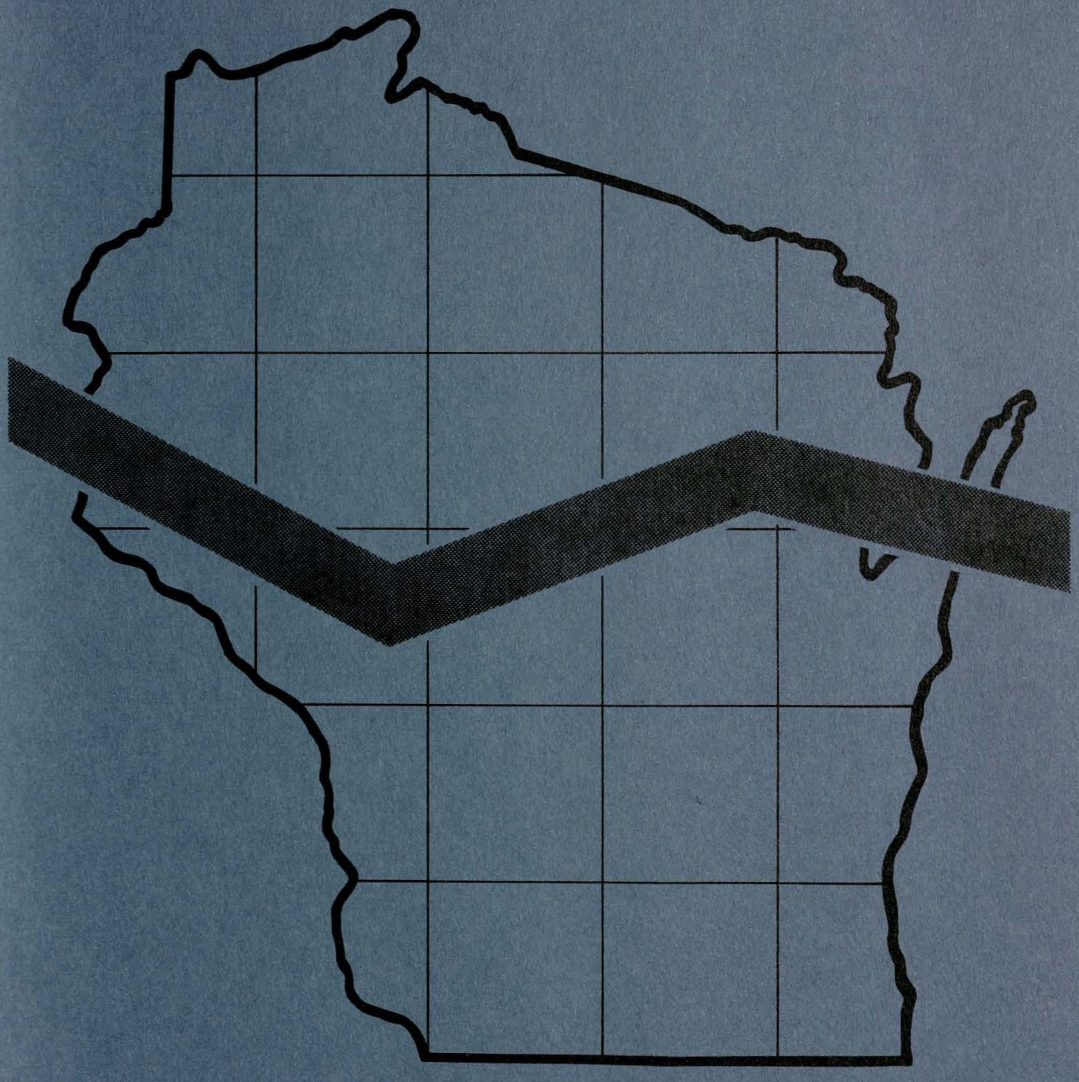

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FOREWARD

This Bulletin discusses recent Wisconsin forest industry trends and contains the results of a detailed study of forest industry, roundwood production, and associated primary mill wood and bark residue in Wisconsin in 1981. Such detailed information is necessary for intelligent planning and decisionmaking in wood procurement, forest resource management, and forest industry development. Likewise, researchers need current forest industry and roundwood information for planning projects.

Special thanks are given to the primary wood-using firms, households, and loggers that supplied information for this study and to the Wisconsin Department of Natural Resources foresters who canvassed these respondents. Their cooperation is greatly appreciated.

Quantities shown may vary slightly from one table to another because of rounding differences, but these differences are insignificant.

The last detailed study of all roundwood product output was in 1967; the last detailed study of all roundwood product output, except fuelwood and commercial posts, was in 1973. Most comparisons in this report are with the 1967 and 1973 study results.

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WISCONSIN TIMBER INDUSTRY—AN ASSESSMENT OF TIMBER OUTPUT TRENDS

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HIGHLIGHTS

- Wisconsin primary wood-using mills (excluding treating plants) imported 19 percent of their roundwood requirements in 1981.
- Roundwood production climbed to 395.3 million cubic feet in 1981 from 181.3 million cubic feet in 1967.
- Roundwood production in 1981 was at least 68 percent higher in each Survey Unit than in 1967.
- Fuelwood accounted for one-third of the roundwood harvest compared to one-eighth of the harvest in 1967.
- Aspen, red oak, and elm, the leading species cut, furnished 54 percent of the total harvest.
- Three-fourths (79 percent) of the roundwood cut came from private land.
- Wisconsin produced a record high 2.39 million cords of pulpwood in 1981. This record was broken in 1983 when production was 2.47 million cords based on the North Central Station's annual study of pulpwood production.
- Wisconsin pulpmills procured 26 percent of their wood requirements from out-of-State, down from 38 percent in 1973.
- Saw log production rose from 273 million board feet in 1967 to 387 million board feet in 1973 to 491 million board feet in 1981.
- Principal saw log species were red oak, aspen, hard maple, elm, white pine, and white oak.
- Average lumber output per sawmill rose 13 percent between 1973 and 1981.
- Wisconsin cut 7 percent (27.3 million board feet) of the U.S. hardwood veneer-log harvest.
- Central and Southeast Wisconsin supplied one-half of the 1,916,000 cords of fuelwood cut from roundwood. Another 250,000 cords were primary wood-using mill residue from throughout the State.
- More than half (52 percent) of the roundwood fuel was red oak and elm.
- Rural woodland supplied 78 out of every 100 cords of roundwood fuel.
- Logging residue generated in 1981 was estimated to be the equivalent of 1,353,000 cords of pulpwood, enough to supply five, 500-ton/day pulpmills for 1 year.
- Ninety-six percent or more of each residue class (coarse, fine, bark) generated at Wisconsin primary mills was used.

PRIMARY FOREST INDUSTRY—ROUNDWOOD PRODUCTION

On a volume of wood-used basis, pulpmills dominate Wisconsin forest industry; but sawmills far outnumber any other mill category. Of 663 primary mills operating in 1981, 613 were sawmills. The total active (operating) mill population rose from 583 in 1973 but declined from 898 in 1967. Sawmills accounted for all of the active mill increases since 1973 and all mill sizes (small, medium, and large) participated in the gains. However, the major numerical increase was in small sawmills cutting less than 1 million board feet annually. The rise in the population of small sawmills reversed a two-decade decline in that size class but may prove to be a temporary reversal. The increase in the number of

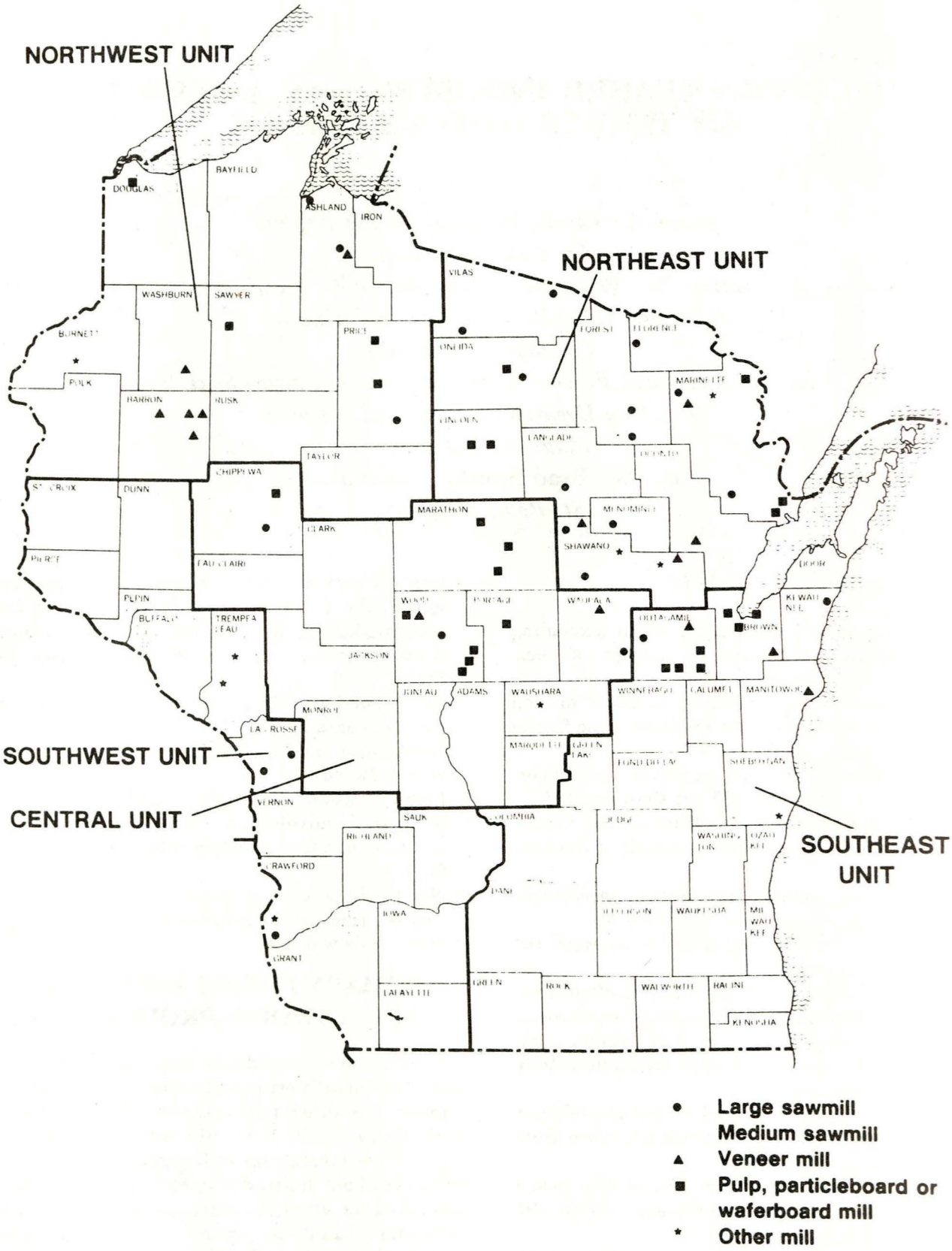
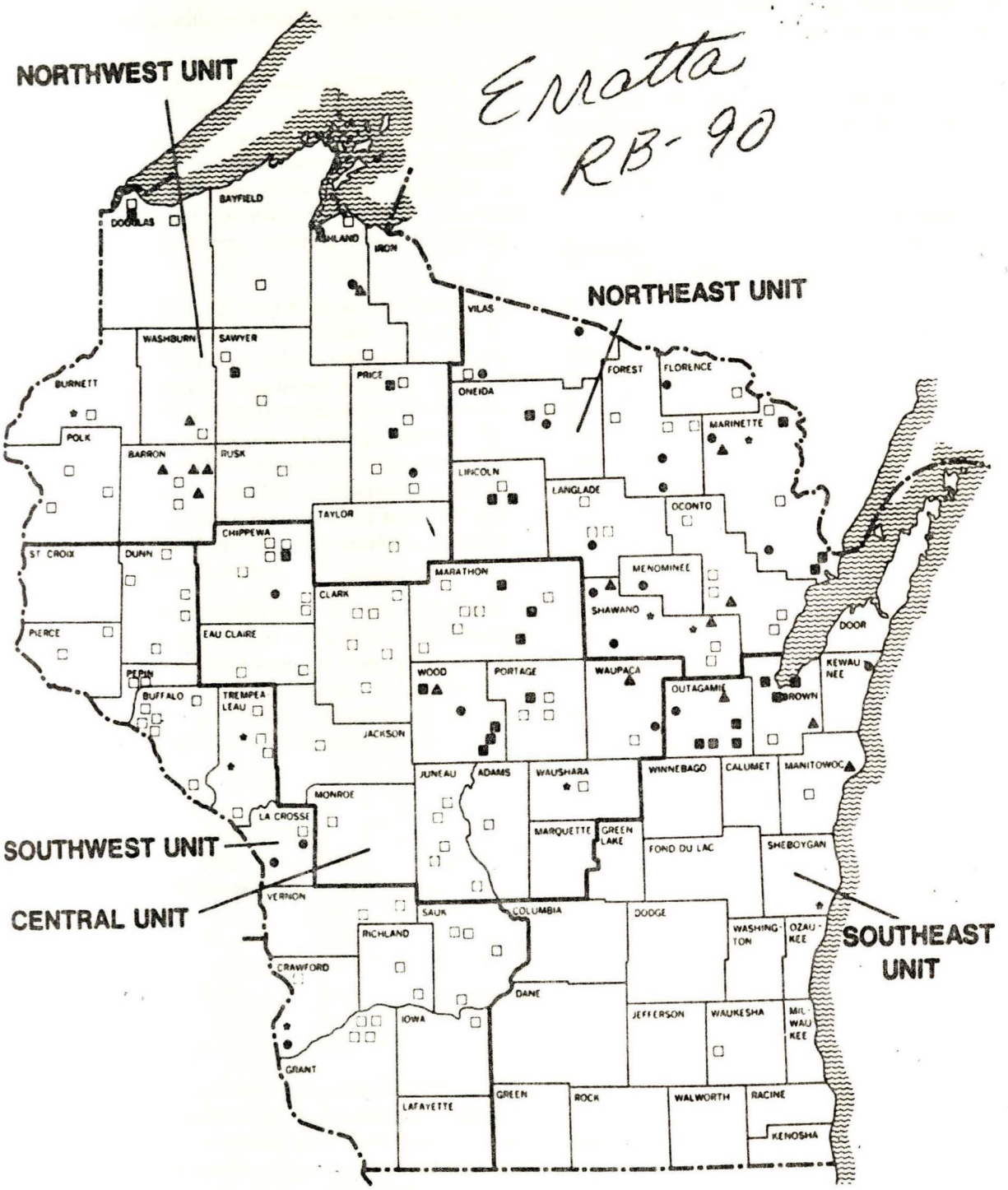


Figure 1.—*Active primary wood-using mills and Forest Survey Units in Wisconsin, 1981. Sawmills are classed by volume of lumber produced in 1981: large = 5 million board feet or more; medium = 1 to 4.999 million board feet (smaller sawmills not shown). Forest Survey Units are the geographic areas used by the Forest Inventory and Analysis Project to report periodic inventories and use of the Nation's forest resources.*



Errata
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- Large sawmill
- Medium sawmill
- Veneer mill
- Pulp, particleboard or waferboard mill
- Other mill

This replaces Figure 1 on page 2.

Figure 1.—*Active primary wood-using mills and Forest Survey Units in Wisconsin, 1981. Sawmills are classed by volume of lumber produced in 1981: large = 5 million board feet or more; medium = 1 to 4.999 million board feet (smaller sawmills not shown). Forest Survey Units are the geographic areas used by the Forest Inventory and Analysis Project to report periodic inventories and use of the Nation's forest resources.*

active large and medium sawmills continued a trend begun in 1956.

Since at least 1956, the annual quantity of logs and bolts used per mill has increased. Most mills constructed since 1956 have been larger than average for their mill type, and most mills that closed were small and inefficient. Although the industry is dispersed throughout the State, major mills are concentrated in the northern, central, and east-central areas (fig. 1).

Log and bolt receipts at active mills were 309.7 million cubic feet, up 19 percent from 1973 and 21 percent from 1967. These receipts represent 2.6 percent of the roundwood consumed at U.S. mills in 1981. Three-fourths of the receipts were hardwoods. Wisconsin mills (excluding treating plants) imported 19 percent of their roundwood requirements, down from 25 percent in 1973. Compared to the previous 4 or 5 years, national markets for saw logs and veneer logs were weak in 1981, but markets for pulpwood were moderately strong.

Roundwood production climbed from 181.4 million cubic feet in 1967 to 395.3 million cubic feet in 1981. Annual production increases averaged 6.2 percent for softwoods and 5.2 percent for hardwoods. Roundwood output more than quadrupled in the Southeast Unit and rose significantly in the other Units:

Survey Unit	Roundwood production		Change
	1967	1981	
	Million (Thousand cubic feet)		(Percent)
Northeast	71.3	119.5	+68
Northwest	51.1	110.4	+116
Central	33.3	77.4	+132
Southwest	16.9	49.9	+195
Southeast	8.8	38.1	+333
Total	181.4	395.3	+118

Most of the major production gains between 1967 and 1981 were in fuelwood in the Central and Southern Units and in pulpwood and fuelwood in the Northern Units. Roundwood products Statewide in 1981 and 1967 ranked in order of output were:

Product	Roundwood production	
	1967	1981
	(Percent)	
Pulpwood	58.0	41.9
Fuelwood	24.9	33.9
Saw logs	12.1	21.8
Veneer logs	2.0	1.1
Posts	1.2	1.1
Other	1.8	0.2

Proportionally, roundwood production partially shifted from northeast to southern Wisconsin between 1967 and 1981. Huge increases in fuelwood harvesting in the Southern Units accounted for the bulk of this shift.

Aspen, red oak, and elm, the leading species cut, provided 54 percent of the total Statewide harvest in 1981. Harvesting of each major species increased by 41 percent or more from 1967:

Species	Roundwood Production		
	1967	1981	Change
	Million (Thousand cubic feet)		(Percent)
Aspen	70.4	99.6	+41
Red oak	26.1	65.8	+152
Elm	10.2	47.0	+361
Hard maple	13.6	30.0	+121
White oak	5.9	20.2	+242
Red pine	1.6	19.5	+1,119
Jack pine	13.3	19.0	+43
Paper birch	6.3	18.9	+200
Soft maple	5.6	14.5	+159
Ash	4.1	9.9	+141
Balsam fir	3.8	9.6	+153
White pine	3.9	8.8	+126
Basswood	4.5	8.2	+82
Other species	12.1	24.3	+101
Total	181.4	395.3	+118

Largest percentage gains since 1967 were in red pine and elm. Red pine plantations are maturing and being thinned for products and elm dying from Dutch elm disease are being salvaged.

Nearly four-fifths of the roundwood harvest came from private land:

Owner	Roundwood harvest		
	All species	Softwoods	Hardwoods
	(Percent)		
National Forest	5	10	4
Other federal	(1)	(1)	(1)
State	2	3	1
County and municipal	12	12	12
Indian	2	5	2
Private			
Forest industry	8	15	7
Other private	71	55	74
Total	100	100	100

Public land supplied a higher proportion of softwoods than hardwoods because most of the public land is in northern Wisconsin where softwoods are more prevalent.

PULPWOOD

In 1981 Wisconsin produced 2.39 million cords of pulpwood which was a record high at that time. Eighty-eight out of 100 cords were roundwood; the remainder was wood residue from sawmills, veneer

[1] *Less than 1 percent.*

mills, and other mills. Residue has become an important pulpwood source since 1959 and has contributed more than 200,000 cords annually since 1978.

In 1951, hardwood constituted more than half of the roundwood cut. Since then, the hardwood proportion of roundwood has grown to about three-fourths of the total.

Annual harvests of aspen, the leading pulpwood species, have more than quadrupled in the last 30 years. Harvesting of other hardwoods began after World War II and, by the early 1950's, became an important part of the pulpwood cut. During the last decade the annual birch harvest has doubled. Important hardwood species cut for pulpwood in 1981 were:

Species	Hardwood pulpwood (Thousand cords)
Aspen	965
Paper birch	131
Hard maple	119
Elm	71
Soft maple	63
Red oak	61

Pine has been the leading softwood pulping species cut for more than 35 years. Since 1975 the annual pine cut has exceeded 250,000 cords and rose above 400,000 cords in 1981. Composition of the 1981 pine cut was jack pine (52 percent), red pine (43 percent), and white pine (5 percent). Since 1971 the annual balsam fir harvest has nearly doubled; the hemlock, spruce, and tamarack harvests have not shown any definite trends.

Most (97 percent in 1981) of Wisconsin's pulpwood remains in the State. Minnesota and Michigan are the principal customers for pulpwood leaving Wisconsin.

Northeast and Northwest Wisconsin supplied 83 percent of the roundwood pulpwood. Counties furnishing more than 100,000 cords each were Marinette, Oneida, Bayfield, Forest, Douglas, Sawyer, and Price.

Twenty-six Wisconsin mills (23 pulp, 2 particleboard, and 1 waferboard) received 3.15 million cords of pulpwood in 1981. Imports included 419,000 cords from Michigan, 177,000 cords from Minnesota, 164,000 cords from other (primarily western) States, and 75,000 cords from Canada. Roundwood constituted 84 percent of the total receipts. Leading imported species were aspen, spruce, jack pine, and hard maple. Canadian shipments were spruce and softwood residue. Sawmills in several western States were the chief suppliers of softwood residue chips to Wisconsin.

Since 1946 the upward trend in receipts has been interrupted periodically by several sharp declines. These declines are usually a reaction to overbuilding woodyard inventories at mills.

Demand in Wisconsin for birch has increased significantly since 1973 while demand for aspen and other hardwoods has leveled off. During the last decade demand for pine rose slightly, demand for balsam fir and tamarack was steady, and demand for spruce and hemlock fell sharply. Pine overtook spruce in 1959 as the primary softwood species used in Wisconsin. Spruce imports from Minnesota have fallen irregularly since 1967 and have plunged from Canada since 1973.

SAW LOGS

During 1981 loggers in Wisconsin harvested 491 million board feet of saw logs, which is up 104 million board feet from 1973 and up 218 million board feet from 1967. Eighty-five percent was hardwoods. Wisconsin saw log output was excellent considering the nation's saw log production in 1981 was the lowest in more than 30 years. Principal species cut were:

Species	Saw log production volume (Million board feet, Int'l. 1/4-inch rule)
Red oak	133
Aspen	76
Hard maple	47
Elm	43
White pine	37
White oak	34

Only 1 million board feet were shipped out-of-State.

Major production gains since 1973 were in red oak (48 million board feet), white oak (15 million board feet), and white pine (13 million board feet). Red oak is in high demand for furniture. More than four-fifths of the gain in the red oak cut came from Central and Southeast Wisconsin.

Elm production dropped 15 million board feet from 1973; no other species had a decline of more than 1 million board feet. Elm saw log production changes since 1973 reflect the decimation of elm by Dutch elm disease in the Southeast Unit and the spread of the disease in the Northwest Unit:

Survey Unit	Elm saw log production	
	1973	1981
	(Thousand board feet, Int'l 1/4-inch rule)	
Northeast	27,904	20,240
Northwest	3,510	13,130
Central	14,548	4,481
Southwest	4,607	3,981
Southeast	7,495	1,008

Compared to 1973, loggers intensified their saw log harvesting in the Northwest, Central, and

Southwest Units. Northeast Wisconsin supplied 30 percent of the saw log volume including 48 percent of the aspen and hard maple, 47 percent of the elm, and 37 percent of the white pine.

Leading saw log-producing counties were Forest, Marinette, Menominee, and Price. Nineteen counties each cut more than 12 million board feet.

More than 600 sawmills received 539 million board feet of saw logs in 1981 compared with 408 million board feet received by more than 500 mills in 1973. Imports came chiefly from Michigan (39 million board feet) and Minnesota (9 million board feet).

Average lumber output per sawmill rose 13 percent from 1973 to 1981. Output continues to rise because most mills that close are smaller than average, most new mills are larger than average, and other mills improved their productivity. Northeast Wisconsin, containing 12 of the 23 largest mills, was the leading lumber-producing Unit.

VENEER LOGS

Wisconsin cut 7 percent of the U.S. hardwood veneer log harvest in 1981. Of the 27.2 million board feet of veneer logs cut in 1981 in Wisconsin, 52 percent remained in the State, 45 percent was shipped to Michigan, and most of the remainder was sent to Indiana and to other countries. Aspen was the primary species cut, followed by red oak, hard maple, and elm. Top-producing counties were Iron, Bayfield, Shawano, La Crosse, Douglas, and Vilas.

Veneer log production fell 5 million board feet from the 1973 level. Declines were concentrated in elm, hard maple, red oak, and walnut. Walnut harvest was nominal in 1981.

In 1981, 15 Wisconsin veneer mills received 34.5 million board feet of logs, which is down 3.3 million board feet from 1973. Elm receipts dropped 74 percent from 1973. Nearly three-fifths of the volume came from out-of-State—Michigan (14.1 million board feet), Minnesota (2.5 million board feet), Iowa (1.3 million board feet), Illinois, Pennsylvania, Indiana, and Canada. Principal species imported and their major sources were hard maple and yellow birch from Michigan and red oak from Minnesota, Iowa, and Michigan.

During the last 35 years in Wisconsin, the number of active veneer mills dropped by about two-thirds and the annual volume of veneer logs consumed fell by half. Most of the decline in veneer log receipts occurred between 1956 and 1970. Since 1970, annual veneer log consumption has ranged between 28 and 42 million board feet. Michigan has been a critical supplier of veneer logs to Wisconsin for more than 3 decades.

FUELWOOD

Fuelwood production in 1981 was 2,166,000 cords; 1,916,000 cords were from roundwood and 250,000 cords were from primary wood-using mill residue used for industrial and domestic fuel.

Central and Southeast Wisconsin supplied one-half of the roundwood fuel. No Survey Unit contributed less than 14 percent. Counties each producing more than 50,000 cords were Marathon, Outagamie, Oneida, Sheboygan, Grant, Eau Claire, and Chippewa.

Households cut 7 out of 8 cords of fuelwood from roundwood; loggers cut the remainder. However, loggers harvested 1 out of 4 cords in the two Northern Units:

Survey Unit	Fuelwood production		
	Households	Loggers	Totals
	(Thousand cords)		
Northeast	241	79	320
Northwest	204	66	270
Central	411	82	493
Southwest	355	10	365
Southeast	465	3	468
Total	1,676	240	1,916

Red oak and elm comprised 52 percent of the roundwood fuel. Leading species cut were:

Species	Roundwood fuel production	
	(Thousand cords)	(Percent)
Red oak	526	27
Elm	479	25
Hard maple	179	9
White oak	176	9
Aspen	103	5
White birch	98	5
Soft maple	85	4
Ash	69	4

No other species supplied more than 26,000 cords. Only 3 percent was softwoods; white, jack, and red pine were the major softwoods.

Most (92 percent) of the fuelwood cut came from private land. A significant quantity of fuelwood in the Northern Units came from public land:

Survey Unit	Fuelwood	
	Private	Public
	(Thousand cords)	
Northeast	264	56
Northwest	200	70
Central	470	23
Southwest	362	3
Southeast	465	3
Total	1,761	155

Rural woodland furnished 78 out of every 100 cords of roundwood fuel. Of the remaining 22 cords out of 100 that were cut from other land classes, 9 cords came from fence rows, windbreaks, and rural yards; 7 cords came from pasture and cropland; 5 cords came from cities and villages, and 1 cord came from other areas.

Most (85 percent) of the primary wood-using mill residue used for fuel was hardwood. Northeast Wisconsin was the leading supplier of both softwood and hardwood:

Survey Unit	Mill residue	
	Softwood	Hardwood
	(Thousand cords)	
Northeast	21	67
Northwest	8	44
Central	6	38
Southwest	3	53
Southeast	1	9
Total	39	211

Nearly 62 percent of the residue burned was coarse (chippable) and the remainder was fines (primarily sawdust, shavings, and veneer clippings).

Two residue user groups were identified—industrial and domestic. Industrial customers used about three-fifths (152,000 cords) of the residue burned for fuel; 88,000 cords were fines and 64,000 cords were coarse residue. Domestic (household) users preferred coarse residue because it is easier to handle and burns better than fines in most stoves and fireplaces. Domestic customers used 98,000 cords, only 7,000 cords of which were fines.

More detailed information on 1981 fuelwood production and sources in Wisconsin can be found in Resource Bulletin NC-75.

OTHER PRODUCTS

Other roundwood products (1.3 percent of all roundwood) cut in Wisconsin in 1981 included posts, shavings bolts, poles, cooperage logs, charcoal bolts, and piling. In order of importance, major species harvested were red pine, cedar, and aspen. Southwest and Northwest Wisconsin are the chief logging areas for these products.

LOGGING RESIDUE

During the 1981 roundwood harvest, an estimated 106.9 million cubic feet of logging residue was generated. Logging residue includes all wood fiber left behind from trees cut during logging operations and not subsequently used. Total residue generated is equivalent to 1,353,000 cords of pulpwood, enough wood to supply five, 500 ton/day pulpmills for 1 year. Alternatively, this volume of residue is equivalent to four-fifths of Wisconsin's fuelwood demand from roundwood in 1981.

Five species accounted for two-thirds of the residue:

Species	Residue volume	
	(Million cubic feet)	(Percent of total)
Aspen	39.0	36
Red oak	15.1	14
Hard maple	7.7	7
Elm	6.5	6
Jack pine	5.4	5

Seventeen of the 22 counties in the Northern Units each generated more than 1 million cubic feet of aspen residue.

The Northern Units produced 71 percent of the residue:

Survey Unit	Residue volume	
	(Million cubic feet)	(Percent of total)
Northeast	39.3	37
Northwest	35.9	34
Central	17.6	16
Southwest	11.7	11
Southeast	2.4	2
Total	106.9	100

Five counties—Marinette, Forest, Oneida, Bayfield, and Price—each produced more than 5 million cubic feet of logging residue.

PRIMARY MILL RESIDUE

During 1981, Wisconsin primary wood-using mills (except the pulpmills) generated 750,000 green tons of coarse residue, 465,000 green tons of fine residue, and 327,000 green tons of bark. Much of this residue was used: 99 percent of the coarse, 97 percent of the fine, and 96 percent of the bark residue was used. Pulpmills consumed 53 percent of the coarse residue for fiber products and industry and households consumed 40 percent for fuel. Fine residue was used primarily for industrial fuel, soil conditioners, mulch, livestock bedding, and poultry litter. Bark was used chiefly for industrial fuel.

Mills have found many additional markets for residue since 1973. In 1973, only 87 percent of the coarse residue, 70 percent of the fine, and 55 percent of the bark was used. Most of the increased use by 1981 was for fuel:

Residue type	Residue used for fuel	
	1973	1981
	(Percent)	
Coarse	18	40
Fine	21	40
Bark	37	78

Counties each producing more than 50,000 green tons of coarse and fine residue in 1981 were Vilas, Ashland, Marinette, Shawano, La Crosse, and Chippewa. Estimates of residue in 1981 by type of disposal for each county are found in the Appendix. Individuals or firms desiring residue can use the county data to pinpoint areas with the highest residue concentrations.

OUTLOOK

Growth rates in the U.S. economy, and particularly the economy of the Upper Midwest, will be major factors in determining the growth rate in demand for Wisconsin's roundwood products. Changes in demand for housing, furniture, pallets, railroad ties, paper, and paperboard are all vitally important to Wisconsin's primary wood-using industry.

Between 1967 and 1981 the average annual increases in roundwood production for pulpwood, saw logs, and fuelwood were:

Product	Average annual increase	
	Softwood	Hardwood
	(Percent)	
Pulpwood	5.4	2.6
Saw logs	7.6	4.3
Fuelwood	16.8	13.7

As mentioned earlier, the average annual increase for all roundwood products between 1967 and 1981 was 6.2 percent for softwoods and 5.2 percent for hardwoods. Neither of these rates of increase are likely to be sustained from 1981 to 1991; they were abnormally high because fuelwood demand increased at unsustainable rates since 1973. During the next decade, average annual rate increases are likely to: be lower for softwood pulpwood and remain steady for hardwood pulpwood; be lower for softwood and hardwood saw logs; and be 5 percent or less for softwood and hardwood fuelwood. Most of the reaction to higher energy prices was already reflected in the fuelwood harvest in 1981.

Through 1991, Wisconsin should continue to import significant quantities of roundwood and average output per mill should continue to rise.

APPENDIX

STUDY METHODS

Except for data on posts and fuelwood cut from roundwood, data for this publication came from canvassing (with formal questionnaires) all of the primary wood-using mills that use Wisconsin logs and bolts and all public agencies administering forest land. The study was a cooperative effort between the Wisconsin Department of Natural Resources (DNR) and the North Central Forest Experiment Station (NCFES). DNR foresters personally canvassed all of the Wisconsin primary mills (except pulp, particleboard, and waferboard mills) and public agencies (except Federal) administering Wisconsin forest land. DNR utilization and marketing specialists provided estimates based on prior knowledge and contacts for a few Wisconsin mills that did not furnish complete data.

The NCFES mailed formal questionnaires to all Wisconsin pulp, particleboard, and waferboard mills; all out-of-State mills using Wisconsin roundwood; federal agencies administering forest land; and all primary wood-using firms owning Wisconsin forest land.

Using formal questionnaires, DNR foresters canvassed by telephone 2,215 sample households and 248 sample loggers to obtain fuelwood and post data. Details concerning study methods are found in Resource Bulletin NC-75.

Logging utilization factors were used to estimate the logging residue. These factors were determined from a Wisconsin logging utilization study by the NCFES during 1981 and 1982.

The NCFES edited and compiled the data.

SAMPLING ERROR

Because all primary wood-using mills were canvassed, there is no sampling error for the roundwood products they used or the wood and bark residue they generated.

All the reported figures for fuelwood and posts are estimates based on sampling procedures designed to give accurate estimates of fuelwood production. A measure of reliability of these figures is given by sampling errors. The sampling error means that the chances are two out of three that the results for the sample differ by no more than the amount indicated from the results that would have been obtained if a 100 percent sample of all households and loggers had been made. Sampling error for fuelwood production was ±6.59 percent on a volume of 1,915,979 cords. Sampling error for post production was ±28.26 percent on a volume of 4,271,000 posts.

DEFINITION OF TERMS

Coarse mill residue.—Wood residue suitable for chipping such as slabs, edgings, and veneer cores.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization by statute or administrative regulation. Generally, this includes areas suitable for growing crops of industrial wood in excess of 20 cubic feet per acre annually.

Consumption.—The quantity of a commodity, such as pulpwood, utilized.

County and municipal land.—Land owned by counties and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Fine mill residue.—Wood residue not suitable for chipping such as sawdust and veneer clippings.

Forest industry land.—Land owned by companies or individuals operating primary wood-using plants.

Forest Survey Unit.—A geographical area (group of counties) used by the Forest Inventory and Analysis Project to report periodic inventories and use of the Nation's forest resources.

Indian land.—Tribal land held in fee but administered by the Federal Government.

Logging residue.—The unused portions of trees cut or killed by logging.

National Forest land.—Federal land that has been legally designated as National Forest or purchase units, and other land under the administration of the USDA Forest Service.

Primary wood-using mills.—Mills receiving roundwood or chips from roundwood for processing into products.

Primary wood-using mill residue.—Wood materials (coarse and fine) and bark generated at manufacturing plants from roundwood processed into principal products. These residues include wood products (byproducts) obtained incidental to production of principal products and wood materials not utilized for some product.

Roundwood.—Logs, bolts, or other round sections cut from trees (including chips from roundwood).

Roundwood production.—The quantity of roundwood harvested in a geographic area.

Roundwood products.—Saw logs, pulpwood, veneer logs, fuelwood, posts, cooperage logs, poles, piling, shaving bolts, charcoal bolts, and chips from roundwood.

Roundwood receipts.—The quantity of roundwood received in a geographic area regardless of the geographic source.

Rural woodland.—Wooded areas outside city and village limits excluding fence rows, windbreaks, rural yards, pasture, and cropland.

Standard cord.—A stack of wood bolts (or the equivalent) encompassing 128 cubic feet of wood, bark, and air space. A cord of pulpwood contains 79 cubic feet of wood and 49 cubic feet of bark and air space. A cord of fuelwood contains 70 cubic feet of wood and 58 cubic feet of bark and air space.

State land.—Land owned by States or land leased to these governmental units for 50 years or more.

COMMON AND SCIENTIFIC NAMES OF TREE SPECIES MENTIONED

SOFTWOODS

- Jack pine ..... *Pinus banksiana*
- Red pine ..... *Pinus resinosa*
- Eastern white pine ..... *Pinus strobus*
- White spruce ..... *Picea glauca*
- Black spruce ..... *Picea mariana*
- Balsam fir ..... *Abies balsamea*
- Eastern hemlock ..... *Tsuga canadensis*
- Tamarack ..... *Larix laricina*
- Northern white-cedar ..... *Thuja occidentalis*

HARDWOODS

- White oaks
  - White oak ..... *Quercus alba*
  - Swamp white oak ..... *Quercus bicolor*
  - Bur oak ..... *Quercus macrocarpa*
  - Chinkapin oak ..... *Quercus muehlenbergii*
- Red oaks
  - Northern red oak ..... *Quercus rubra*
  - Northern pin oak ..... *Quercus ellipsoidalis*
  - Black oak ..... *Quercus velutina*
- Hickory
  - Shagbark hickory ..... *Carya ovata*
  - Bitternut hickory ..... *Carya cordiformis*
- Yellow birch ..... *Betula alleghaniensis*
- Hard maple
  - Sugar maple ..... *Acer saccharum*
  - Black maple ..... *Acer nigrum*
- Soft maples
  - Red maple ..... *Acer rubrum*
  - Silver maple ..... *Acer saccharinum*
- Ashes
  - White ash ..... *Fraxinus americana*
  - Black ash ..... *Fraxinus nigra*
  - Green ash ..... *Fraxinus pennsylvanica*
- Balsam poplar ..... *Populus balsamifera*
- Eastern cottonwood ..... *Populus deltoides*
- Aspens
  - Bigtooth aspen ..... *Populus grandidentata*
  - Quaking aspen ..... *Populus tremuloides*
- American basswood ..... *Tilia americana*
- Beech ..... *Fagus grandifolia*
- Black walnut ..... *Juglans nigra*
- Elms
  - American elm ..... *Ulmus americana*
  - Slippery elm ..... *Ulmus rubra*
  - Rock elm ..... *Ulmus thomasii*

Paper birch ..... *Betula papyrifera*
Other hardwoods
Boxelder ..... *Acer negundo*
Black locust ..... *Robinia pseudoacacia*
Honeylocust ..... *Gladitsia triacanthos*
River birch ..... *Betula nigra*
Red mulberry ..... *Morus rubra*
Blackgum ..... *Nyssa silvatica*
Northern Catalpa ..... *Catalpa speciosa*
Sycamore ..... *Platanus occidentalis*
Black cherry ..... *Prunus serotina*
Butternut ..... *Juglans cinerea*
Hackberry ..... *Celtis occidentalis*
Black willow ..... *Salix nigra*

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Table 1.--Output of roundwood products by species group, Wisconsin, 1967 and 1981

(In million cubic feet)

Product	All species		Softwoods		Hardwoods	
	1967	1981	1967	1981	1967	1981
Pulpwood[1]	105.3	165.6	22.1	46.1	83.2	119.5
Saw logs	45.1	86.0	4.8	13.4	40.3	72.6
Fuelwood	21.9	134.0	0.4	3.5	21.5	130.5
Veneer logs	3.7	4.4	[2]	[2]	3.7	4.4
Posts	2.2	4.4	1.0	3.5	1.2	0.9
Cooperage logs	0.2	0.1	--	--	0.2	0.1
Poles & piling	0.5	0.1	0.4	0.1	0.1	[2]
Other[3]	2.5	0.7	--	--	2.5	0.7
All products	181.4	395.3	28.7	66.6	152.7	328.7

[1] Includes particleboard and waferboard bolts.

[2] Less than 50 thousand cubic feet.

[3] Includes logs and bolts used for excelsior, shavings, charcoal, and other specialty products.

Table 2.--Output of roundwood products by type of product, Wisconsin, 1981

Product	Standard units	All species	Soft-woods	Aspen	Other hard-woods	All species	Soft-woods	Aspen	Other hard-woods
		- - - Thousand standard units - - -				- - - - Thousand cubic feet - - - -			
Pulpwood[1]	Standard cords[2]	2,098	585	965	548	165,648	46,161	76,238	43,249
Saw logs	Board feet[3]	490,775	75,683	76,407	338,685	85,994	13,450	13,331	59,213
Fuelwood	Standard cords[2]	1,916	49	104	1,763	133,957	3,443	7,238	123,276
Veneer logs	Board feet[3]	27,250	44	12,971	14,235	4,389	5	2,109	2,275
Posts	Pieces	4,271	3,350	151	770	4,361	3,441	152	768
Cooperage logs	Board feet[3]	898	--	--	898	120	--	--	120
Poles	Pieces	17	16	--	1	142	140	--	2
Other[3]	Cubic feet	725	1	483	241	725	1	483	241
All products		--	--	--	--	395,336	66,641	99,551	229,144

[1] Includes particleboard and waferboard bolts.

[2] Contains 128 cubic feet, including wood, bark, and air space.

[3] International 1/4-inch rule.

[4] Includes piling, excelsior, shavings, charcoal, and other specialty products.

Table 3.--Output of roundwood products by ownership class, Forest Survey Unit, and species group, Wisconsin, 1981

(In thousand cubic feet)

Ownership class and species group	All Units	Forest Survey Unit				
		Northeast Unit	Northwest Unit	Central Unit	Southwest Unit	Southeast Unit
Federal						
National Forest						
Softwoods	6,710	3,204	3,506	--	--	--
Hardwoods	13,376	8,486	4,890	--	--	--
Total	20,086	11,690	8,396	--	--	--
Other						
Softwoods	145	--	--	145	--	--
Hardwoods	101	--	--	101	--	--
Total	246	--	--	246	--	--
State						
Softwoods	2,067	733	515	651	24	144
Hardwoods	4,368	2,809	929	412	77	141
Total	6,435	3,542	1,444	1,063	101	285
County & municipal						
Softwoods	8,198	2,663	4,580	848	--	107
Hardwoods	38,431	14,796	18,189	5,403	3	40
Total	46,629	17,459	22,769	6,251	3	147
Indian						
Softwoods	3,211	2,982	197	32	--	--
Hardwoods	6,488	5,655	828	5	--	--
Total	9,699	8,637	1,025	37	--	--
Private						
Forest Industry						
Softwoods	10,113	3,865	4,318	1,929	--	1
Hardwoods	22,037	10,130	9,204	2,485	179	39
Total	32,150	13,995	13,522	4,414	179	40
Other						
Softwoods	36,197	12,580	6,733	11,826	3,616	1,442
Hardwoods	243,894	51,616	56,494	53,551	46,019	36,214
Total	280,091	64,196	63,227	65,377	49,635	37,656
All owners						
Softwoods	66,641	26,027	19,849	15,431	3,640	1,694
Hardwoods	328,695	93,492	90,534	61,957	46,278	36,434
Total	395,336	119,519	110,383	77,388	49,918	38,128

Table 4.--Number of active primary wood-using mills by Forest Survey Unit and kind of mill, Wisconsin, 1956, 1967, 1973, and 1981

Kind of mill	All units				Northeast Unit			Northwest Unit			Central Unit			Southwest Unit			Southeast Unit		
	1956	1967	1973	1981	1967	1973	1981	1967	1973	1981	1967	1973	1981	1967	1973	1981	1967	1973	1981
Pulp mills	29	27	24	23	7	6	5	3	3	3	9	8	8	--	--	--	8	7	7
Saw mills																			
Large[1/]	8	6	15	23	5	10	12	--	1	3	1	2	3	--	1	3	--	1	2
Medium[2/]	55	73	101	110	17	23	19	12	19	21	14	25	33	23	27	34	7	7	3
Small[3/]	1,565	739	411	480	125	93	111	130	73	117	182	95	87	175	75	78	127	75	87
All sawmills	1,628	818	527	613	147	126	142	142	93	141	197	122	123	198	103	115	134	83	92
Veneer mills	47	26	19	15	7	5	4	6	5	6	4	4	2	1	--	--	8	5	3
Cooperage mills	5	3	1	1	--	--	--	--	--	--	--	--	--	3	1	1	--	--	--
Charcoal plants	4	2	1	1	--	--	--	--	--	--	--	1	--	1	--	--	1	--	1
Misc. plants[4/]	40	22	11	10	4	3	4	7	2	2	4	2	2	6	3	2	1	1	--
Total	1,753	898	583	663	165	140	155	158	103	152	214	137	135	209	107	118	152	96	103

[1/] Annual lumber production of 5 million board feet or more.

[2/] Annual lumber production from 1 million to 4.999 million board feet.

[3/] Annual lumber production less than 1 million board feet.

[4/] Includes waferboard, particleboard, treating, fence, excelsior, and specialty plants.

Table 5.--Roundwood receipts by type of mill in Wisconsin, 1956, 1967, 1973, and 1981

(In million cubic feet)

Type of mill	All species				Softwoods				Hardwoods			
	1956	1967	1973	1981	1956	1967	1973	1981	1956	1967	1973	1981
Pulpmills[1/]	164.3	195.1	179.2	208.7	89.8	79.4	63.0	62.7	74.5	115.7	116.2	146.0
Sawmills	67.8	47.8	68.0	94.4	14.5	5.1	8.8	15.8	53.3	42.7	59.2	78.6
Other mills[2/]	21.5	12.0	12.5	6.6	[3/]	[3/]	[3/]	0.2	21.5	12.0	12.5	6.4
All mills	253.6	254.9	259.7	309.7	104.3	84.5	71.8	78.7	149.3	170.4	187.9	231.0

[1/] Includes particleboard and waferboard mills in 1981.

[2/] Does not include treating plants; includes particleboard mills in 1967 and 1973.

[3/] Less than 0.05 million cubic feet.

Table 6.--Wisconsin pulpwood production by species group, 1946-1981

(In thousand standard cords, unpeeled)[1/]

Year	Total	Roundwood								Residue	
		Pine	Balsam fir	Hemlock	Spruce	Tamarack	Aspen	Birch	Other hardwoods	Soft-woods	Hard-woods
1946	428	75	48	64	32	3	202	4	[2/]	[2/]	[2/]
1947	493	157	53	50	31	6	187	8	[2/]	[2/]	1
1948	468	117	87	51	34	3	167	8	[2/]	[2/]	1
1949	427	72	78	47	33	1	184	10	--	[2/]	2
1950	468	93	69	47	31	[2/]	195	6	20	1	6
1951	565	102	55	51	30	1	281	28	17	--	--
1952	582	95	76	66	39	1	275	15	15	--	--
1953	553	71	45	51	26	1	306	12	41	--	--
1954	691	113	56	63	31	4	348	27	49	--	--
1955	710	121	48	58	23	4	365	16	75	--	--
1956	960	140	45	56	23	4	507	21	164	--	--
1957	934	126	60	57	27	6	453	27	178	--	--
1958	828	148	62	55	23	6	369	18	147	--	--
1959	972	186	52	49	21	6	431	26	159	5	37
1960	1,052	124	50	52	18	6	540	27	204	4	27
1961	1,078	154	61	47	23	7	530	34	201	3	18
1962	1,140	188	46	42	15	6	572	41	188	6	36
1963	1,302	170	60	52	19	6	613	50	233	13	86
1964	1,244	168	57	52	20	5	603	41	222	11	65
1965	1,253	207	50	60	15	4	607	24	197	14	75
1966	1,536	215	55	69	17	3	810	39	243	12	73
1967	1,417	174	48	42	13	3	739	84	203	10	101
1968	1,298	199	51	44	11	5	629	57	185	16	101
1969	1,450	216	50	51	13	2	697	62	238	15	106
1970	1,656	259	68	53	16	4	771	76	296	19	94
1971	1,552	268	54	42	12	3	736	51	269	16	101
1972	1,538	246	49	42	13	3	685	47	333	10	110
1973	1,758	232	67	32	16	1	761	73	400	21	155
1974	2,053	291	85	45	19	2[3/]	797	102	506	26	180
1975	1,505	240	98	45	25	4[3/]	588	83	244	36	142
1976	1,840	286	89	43	19	3[3/]	694	114	425	38	129
1977	1,816	297	73	43	19	5[3/]	696	103	383	48	149
1978	1,895	358	75	52	20	4[3/]	669	121	373	40	183
1979[4/]	2,109	361	84	40	19	2[3/]	751	151	441	49	211
1980[4/]	2,362	388	101	34	32	4[3/]	873	185	456	40	249
1981[4/]	2,389	419	105	29	27	5	965	159	389	47	244

[1/] 128 cubic feet consisting of 79 cubic feet of wood and 49 cubic feet of bark and air space.

[2/] Less than 500 cords.

[3/] Includes cedar.

[4/] Includes logs, bolts, and wood residue used in manufacturing particleboard and waferboard.

Table 7.--Wisconsin pulpwood production by species group and destination, 1981

(In thousand standard cords, unpeeled)[1/]

Species group	Total	Destination of wood			
		Wisconsin	Michigan	Minnesota	Other States & Canada
Roundwood[2/]					
Pine	419	413	3	2	1
Balsam fir	105	104	1	--	--
Hemlock	29	28	1	--	--
Spruce	27	27	3/	--	--
Tamarack	5	5	3/	--	--
Aspen	965	933	1	31	3/
Birch	159	159	3/	--	3/
Other hardwoods	389	385	3/	1	3
Total	2,098	2,054	6	34	4
Residue					
Softwoods	47	47	3/	--	--
Hardwoods	244	219	20	--	5
Total	291	266	20	--	5
All material	2,389	2,320	26	34	9

1/ 128 cubic feet consisting of 79 cubic feet of wood and 49 cubic feet of bark and air space.

2/ Includes chips from roundwood.

3/ Less than 500 cords.

Table 8.--Pulpwood production from roundwood by species group, Forest Survey Unit and county, Wisconsin, 1981

(In standard cords, unpeeled)[1/]

Unit and county	All species	Species group											
		Cedar	Balsam fir	Hemlock	Jack pine	Red pine	White pine	Spruce	Tamarack	Ash	Aspen	Balsam poplar	Basswood
Northeast Unit													
Florence	56,342	--	5,348	820	1,169	2,427	327	1,843	178	434	32,619	--	92
Forest	127,994	--	22,692	2,189	780	5,812	72	7,187	146	1,878	49,861	--	1,520
Langlade	83,943	--	6,645	303	227	2,718	25	1,083	137	2,168	41,051	--	1,297
Lincoln	90,516	--	3,558	629	1,588	4,132	1,460	901	257	3,663	46,960	--	3,761
Marinette	159,377	--	11,585	1,212	17,491	11,137	543	3,911	121	1,538	88,291	--	143
Menominee	51,261	--	--	16,338	2,976	300	38	11	--	526	20,941	--	--
Oconto	54,041	--	1,569	705	11,027	10,267	269	393	--	385	23,606	--	62
Oneida	147,147	--	20,710	687	6,255	8,920	1,905	4,196	524	2,196	63,489	--	1,416
Shawano	27,859	--	108	521	1,272	5,734	113	--	42	329	11,990	--	14
Vilas	81,380	--	6,724	787	5,675	4,397	1,698	1,942	18	618	36,447	--	555
Total	879,860	--	78,939	24,191	48,460	55,844	6,450	21,467	1,423	13,735	415,255	--	8,860
Northwest Unit													
Ashland	96,426	--	9,713	544	2,442	8,415	812	2,271	335	2,176	42,407	--	216
Barron	1,924	--	--	--	77	90	77	--	--	33	1,146	--	5
Bayfield	136,063	--	1,233	379	15,398	4,435	1,100	228	54	1,536	84,192	416	2
Burnett	49,888	--	22	--	19,209	2,472	20	7	42	40	26,783	--	--
Douglas	116,095	--	490	--	37,507	9,527	146	40	--	165	64,260	208	--
Iron	55,349	--	1,177	276	289	180	338	118	24	1,419	37,539	--	531
Polk	1,938	--	10	--	1,928	--	--	--	--	--	--	--	--
Price	110,796	--	4,719	650	1,170	2,323	161	1,393	1,067	5,505	37,793	--	1,182
Rusk	65,832	--	12	191	409	575	23	--	96	3,575	35,230	--	2,592
Sawyer	115,194	--	4,548	661	3,304	3,554	311	688	659	2,445	75,203	--	946
Taylor	65,695	--	2,211	997	812	1,399	--	310	325	2,650	30,810	--	599
Washburn	54,852	--	1,151	--	9,416	2,821	647	303	37	604	33,897	--	--
Total	870,052	--	25,286	3,698	91,961	35,791	3,635	5,358	2,639	20,148	469,260	624	6,073
Central Unit													
Adams	46,023	--	--	--	14,586	21,948	1,329	--	--	52	438	--	--
Chippewa	25,599	--	--	149	1,354	878	--	--	121	862	12,669	--	546
Clark	40,850	--	--	246	3,083	1,599	29	33	--	708	20,317	--	28
Eau Claire	18,985	--	--	--	8,870	3,792	273	8	--	167	2,406	--	14
Jackson	26,619	--	--	--	11,741	4,122	339	--	10	150	2,911	--	--
Juneau	30,738	--	--	--	12,815	6,218	1,444	--	--	145	1,742	--	--
Marathon	41,679	--	461	547	815	3,988	236	356	31	658	21,988	--	49
Marquette	6,923	--	--	--	1,370	2,582	102	--	26	--	415	--	--
Monroe	13,683	--	--	--	6,830	2,613	200	--	--	146	875	--	--
Portage	18,199	--	23	97	4,034	4,411	1,611	11	707	66	4,409	--	24
Waupaca	13,141	--	40	4	1,103	5,890	983	9	14	117	3,228	--	21
Waushara	13,535	--	--	--	2,004	10,116	1,304	--	--	--	46	--	--
Wood	18,900	--	--	--	2,516	1,478	1,637	62	9	370	8,138	--	--
Total	314,874	--	524	1,043	71,121	69,635	9,487	479	918	3,441	79,582	--	682

(Table 8 continued on next page)

[1/] 128 cubic feet, consisting of 79 cubic feet of wood and 49 cubic feet of bark and air space.

(Table 8 continued)

Unit and county	All species	Species group											
		Cedar	Balsam fir	Hemlock	Jack pine	Red pine	White pine	Spruce	Tamarack	Ash	Aspen	Balsam poplar	Basswood
Southwest Unit													
Buffalo	42	--	--	--	42	--	--	--	--	--	--	--	--
Crawford	1,437	--	--	--	--	--	--	--	--	41	190	--	75
Dunn	12,663	--	29	--	3,233	8,120	1,159	11	--	3	75	--	--
Grant	1,435	--	--	--	--	--	--	--	--	39	180	--	74
Iowa	--	--	--	--	--	--	--	--	--	--	--	--	--
La Crosse	409	--	--	--	52	277	--	--	--	3	53	--	--
Lafayette	--	--	--	--	--	--	--	--	--	--	--	--	--
Pepin	279	--	--	--	108	111	11	23	--	--	--	--	--
Pierce	63	--	--	--	--	21	31	--	--	--	11	--	--
Richland	--	--	--	--	--	--	--	--	--	--	--	--	--
St. Croix	--	--	--	--	--	--	--	--	--	--	--	--	--
Sauk	5,964	--	--	--	1,625	3,230	233	--	--	33	--	--	--
Trempealeau	2,260	--	--	--	169	1,851	122	--	--	2	--	--	--
Vernon	58	--	--	--	14	16	28	--	--	--	--	--	--
Total	24,610	--	29	--	5,243	13,626	1,584	34	--	121	509	--	149
Southeast Unit													
Brown	794	--	--	--	--	488	--	--	--	--	306	--	--
Calumet	--	--	--	--	--	--	--	--	--	--	--	--	--
Columbia	6,062	--	--	--	285	3,912	122	--	--	130	59	--	--
Dane	--	--	--	--	--	--	--	--	--	--	--	--	--
Dodge	--	--	--	--	--	--	--	--	--	--	--	--	--
Door	26	--	--	--	12	14	--	--	--	--	--	--	--
Fond du Lac	--	--	--	--	--	--	--	--	--	--	--	--	--
Green	--	--	--	--	--	--	--	--	--	--	--	--	--
Green Lake	200	--	--	--	15	152	33	--	--	--	--	--	--
Jefferson	--	--	--	--	--	--	--	--	--	--	--	--	--
Kenosha	25	--	--	--	--	--	--	--	--	--	25	--	--
Kewaunee	38	--	--	--	--	38	--	--	--	--	--	--	--
Manitowoc	--	--	--	--	--	--	--	--	--	--	--	--	--
Milwaukee	--	--	--	--	--	--	--	--	--	--	--	--	--
Outagamie	292	--	--	--	19	96	24	--	--	--	153	--	--
Ozaukee	--	--	--	--	--	--	--	--	--	--	--	--	--
Racine	--	--	--	--	--	--	--	--	--	--	--	--	--
Rock	12	--	--	--	--	--	--	--	--	2	--	--	--
Sheboygan	--	--	--	--	--	--	--	--	--	--	--	--	--
Walworth	1,107	--	--	--	--	1,096	11	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--	--
Waukesha	186	--	--	--	--	186	--	--	--	--	--	--	--
Winnebago	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	8,742	--	--	--	331	5,982	190	--	--	132	543	--	--
State total	2,098,138	--	104,778	28,932	217,116	180,878	21,346	27,338	4,980	37,577	965,149	624	15,764

(Table 8 continued on next page)

(Table 8 continued)

Unit and county	Species group											
	Beech	Paper birch	Yellow birch	Cotton-wood	Elm	Hickory	Hard maple	Soft maple	Red oak	White oak	Walnut	Other hardwoods
Northeast Unit												
Florence	--	3,166	886	--	1,410	--	3,480	1,288	646	156	--	53
Forest	2	9,493	1,861	--	4,986	--	12,631	4,697	1,233	345	--	609
Langlade	--	4,449	1,904	--	3,948	71	12,589	3,775	792	64	--	697
Lincoln	--	5,664	1,290	--	2,524	--	6,933	4,937	2,024	1	--	234
Marinette	25	7,306	248	--	2,264	--	4,729	4,844	3,074	774	--	141
Menominee	--	401	494	--	2,748	146	2,439	2,879	678	200	--	146
Oconto	--	2,610	52	--	512	--	1,097	864	471	123	--	29
Oneida	--	17,590	1,794	--	744	--	7,500	4,709	3,854	208	--	450
Shawano	--	435	343	--	2,460	246	2,266	897	827	97	--	165
Vilas	--	12,787	960	--	445	--	4,800	1,512	1,706	253	--	56
Total	27	63,901	9,832	--	22,041	463	58,464	30,402	15,305	2,221	--	2,580
Northwest Unit												
Ashland	3	6,722	2,592	--	5,508	--	7,237	3,821	1,007	94	--	111
Barron	--	255	11	--	17	--	77	56	64	14	--	2
Bayfield	--	10,046	2,629	--	5,753	--	5,370	2,119	1,133	28	--	12
Burnett	--	258	--	--	173	--	408	293	120	41	--	--
Douglas	--	3,197	37	--	114	--	266	118	10	2	--	8
Iron	--	3,339	1,328	--	2,522	--	3,689	1,641	770	120	--	49
Polk	--	--	--	--	--	--	--	--	--	--	--	--
Price	--	12,345	3,521	--	17,135	--	12,049	5,917	3,055	645	--	166
Rusk	--	6,505	1,429	--	1,154	--	6,219	3,812	3,190	657	--	163
Sawyer	--	8,591	1,187	--	894	--	7,700	2,876	1,142	216	--	269
Taylor	--	3,608	2,726	--	6,524	--	7,381	3,941	1,064	301	--	37
Washburn	--	2,495	141	--	471	--	1,321	860	532	124	--	32
Total	3	57,361	15,601	--	40,265	--	51,717	25,454	12,087	2,242	--	849
Central Unit												
Adams	--	104	32	--	359	--	157	456	4,738	1,824	--	--
Chippewa	--	2,332	802	--	1,046	--	1,405	1,363	1,485	561	--	26
Clark	1	2,608	638	--	1,485	--	1,541	996	4,925	2,580	--	33
Eau Claire	1	324	53	--	229	--	234	440	1,696	442	--	36
Jackson	1	407	47	--	271	--	174	445	4,543	1,428	--	30
Juneau	--	521	2	--	372	--	488	550	4,401	2,040	--	--
Marathon	--	1,447	995	--	2,907	39	2,336	1,359	3,231	206	--	30
Marquette	--	208	--	--	208	--	312	208	972	520	--	--
Monroe	--	293	8	--	333	--	433	469	1,136	345	--	2
Portage	--	216	24	--	80	--	183	192	1,283	822	--	6
Waupaca	--	125	26	--	222	14	275	315	582	157	--	16
Waushara	--	--	--	--	--	--	6	6	53	--	--	--
Wood	--	400	118	--	335	--	293	351	2,387	800	--	6
Total	3	8,985	2,745	--	7,847	53	7,837	7,150	31,432	11,725	--	185

(Table 8 continued on next page)

(Table 8 continued)

Unit and county	Species group											
	Beech	Paper birch	Yellow birch	Cotton-wood	Elm	Hickory	Hard maple	Soft maple	Red oak	White oak	Walnut	Other hardwoods
Southwest Unit												
Buffalo	--	--	--	--	--	--	--	--	--	--	--	--
Crawford	--	61	--	14	141	--	71	91	533	202	--	18
Dunn	--	4	--	--	11	--	6	--	7	3	--	2
Grant	--	61	--	12	139	--	72	83	550	207	--	18
Iowa	--	--	--	--	--	--	--	--	--	--	--	--
La Crosse	--	3	--	--	8	--	4	7	--	--	--	2
Lafayette	--	--	--	--	--	--	--	--	--	--	--	--
Pepin	--	--	--	--	--	--	--	--	26	--	--	--
Pierce	--	--	--	--	--	--	--	--	--	--	--	--
Richland	--	--	--	--	--	--	--	--	--	--	--	--
St. Croix	--	--	--	--	--	--	--	--	--	--	--	--
Sauk	--	63	--	--	99	--	155	155	271	98	--	2
Trempealeau	--	14	--	--	8	--	5	5	59	23	--	2
Vernon	--	--	--	--	--	--	--	--	--	--	--	--
Total	--	206	--	26	406	--	313	341	1,446	533	--	44
Southeast Unit												
Brown	--	--	--	--	--	--	--	--	--	--	--	--
Calumet	--	--	--	--	--	--	--	--	--	--	--	--
Columbia	12	208	4	--	175	--	176	113	553	267	--	46
Dane	--	--	--	--	--	--	--	--	--	--	--	--
Dodge	--	--	--	--	--	--	--	--	--	--	--	--
Door	--	--	--	--	--	--	--	--	--	--	--	--
Fond du Lac	--	--	--	--	--	--	--	--	--	--	--	--
Green	--	--	--	--	--	--	--	--	--	--	--	--
Green Lake	--	--	--	--	--	--	--	--	--	--	--	--
Jefferson	--	--	--	--	--	--	--	--	--	--	--	--
Kenosha	--	--	--	--	--	--	--	--	--	--	--	--
Kewaunee	--	--	--	--	--	--	--	--	--	--	--	--
Manitowoc	--	--	--	--	--	--	--	--	--	--	--	--
Milwaukee	--	--	--	--	--	--	--	--	--	--	--	--
Outagamie	--	--	--	--	--	--	--	--	--	--	--	--
Ozaukee	--	--	--	--	--	--	--	--	--	--	--	--
Racine	--	--	--	--	--	--	--	--	--	--	--	--
Rock	1	--	--	--	4	--	2	1	--	--	--	2
Sheboygan	--	--	--	--	--	--	--	--	--	--	--	--
Walworth	--	--	--	--	--	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--	--	--
Waukesha	--	--	--	--	--	--	--	--	--	--	--	--
Winnebago	--	--	--	--	--	--	--	--	--	--	--	--
Total	13	208	4	--	179	--	178	114	553	267	--	48
State total	46	130,661	28,182	26	70,738	516	118,509	63,461	60,823	16,988	--	3,706

Table 9.--Pulpwood receipts in Wisconsin by species group, 1946-1981

(In thousand standard cords, unpeeled)[1/]

Year	Total	Roundwood								Residue	
		Pine	Balsam fir	Hemlock	Spruce	Tamarack	Aspen	Birch	Other hardwoods	Soft-woods	Hard-woods
1946	1,902	298	280	233	645	16	416	14	[2/]	[2/]	[2/]
1947	1,722	292	230	134	687	19	346	13	[2/]	[2/]	1
1948	1,741	307	279	136	663	5	333	17	[2/]	[2/]	1
1949	1,426	227	244	101	502	3	332	15	[2/]	[2/]	2
1950	1,442	244	238	91	441	3	387	10	21	1	6
1951	2,097	428	232	120	678	10	569	42	18	--	--
1952	2,059	365	288	131	732	6	490	32	15	--	--
1953	1,689	283	179	76	529	2	552	26	42	--	--
1954	1,919	298	228	125	608	5	566	40	49	--	--
1955	1,777	319	199	92	471	5	590	26	75	--	--
1956	2,136	397	195	143	445	9	754	27	166	--	--
1957	2,247	325	254	116	578	14	739	38	183	--	--
1958	1,866	318	200	90	479	18	583	19	159	--	--
1959	1,881	436	169	87	345	17	619	30	165	7	6
1960	2,114	388	176	97	389	26	785	31	208	7	7
1961	1,972	330	177	92	350	19	741	44	196	12	11
1962	2,124	395	155	99	317	19	784	49	206	51	49
1963	2,429	414	175	114	341	22	877	64	235	96	91
1964	2,271	350	139	110	314	20	855	62	233	96	92
1965	2,290	410	114	120	300	19	899	26	219	91	92
1966	2,701	473	139	162	301	11	1,112	44	270	100	89
1967	2,729	415	140	100	308	42	1,115	91	259	135	124
1968	2,226	405	100	86	200	33	860	59	205	160	118
1969	2,514	456	81	112	208	25	978	63	278	192	121
1970	2,821	498	111	118	208	43	1,088	81	333	189	152
1971	2,581	514	88	83	167	37	1,011	53	295	193	140
1972	2,450	443	82	69	181	31	902	48	354	198	142
1973	2,696	387	103	54	224	28	1,006	68	398	279	149
1974	3,135	508	133	69	161	36	1,109	115	558	257	189
1975	2,344	391	155	73	146	30	791	89	288	216	165
1976	2,713	437	137	66	121	34	926	133	486	256	117
1977	2,596	416	109	43	94	31	915	120	445	299	124
1978	2,676	491	99	50	82	25	888	145	450	301	145
1979[3/]	3,067	567	115	39	76	21	999	178	548	332	192
1980[3/]	3,266	518	147	40	94	34	1,118	231	562	268	254
1981[3/]	3,154	512	135	31	86	31	1,182	189	477	252	259

[1/] 128 cubic feet consisting of 79 cubic feet of wood and 49 cubic feet of bark and air space.

[2/] Less than 500 cords.

[3/] Includes logs and bolts used in manufacturing particleboard and waferboard.

Table 10.-- Pine and spruce pulpwood receipts in Wisconsin by area of origin, 1946-1981

(In thousand standard cords, unpeeled)[1/]

Year	Pine from:						Spruce from:					
	All areas	Wisconsin	Michigan	Minnesota	Other States	Canada	All areas	Wisconsin	Michigan	Minnesota	Other States	Canada
1946	298	75	43	165	9	6	645	32	87	113	16	397
1947	292	116	25	126	20	5	687	31	105	102	4	445
1948	307	117	24	122	29	15	663	34	95	113	6	415
1949	227	72	16	80	47	12	502	33	72	88	8	301
1950	244	93	14	60	49	28	441	31	69	102	13	226
1951	428	99	20	157	99	53	678	30	78	126	38	406
1952	365	92	13	87	129	44	732	39	86	151	3	453
1953	283	67	7	90	78	41	529	25	51	91	26	336
1954	298	112	7	97	49	33	608	31	90	92	18	377
1955	319	118	18	89	61	33	471	23	80	108	20	240
1956	397	136	35	112	87	27	445	23	76	120	26	200
1957	325	124	22	104	49	26	578	28	79	140	38	293
1958	318	147	41	75	33	22	479	23	59	112	22	263
1959	436	184	80	91	56	25	345	21	49	87	11	177
1960	388	123	60	100	80	25	389	18	61	128	2/	182
1961	330	154	47	59	44	26	350	23	65	115	--	147
1962	395	188	86	56	65	--	317	15	58	98	--	146
1963	414	169	90	63	85	7	341	19	64	99	--	159
1964	350	167	90	38	55	--	314	20	49	96	2/	149
1965	410	206	110	25	58	11	300	16	45	87	2/	152
1966	473	215	108	57	92	1	301	18	53	72	4	154
1967	415	174	76	57	105	3	308	14	55	90	4	145
1968	405	199	72	44	82	8	200	11	22	51	2/	116
1969	456	216	91	63	86	2/	208	13	23	53	--	119
1970	498	259	88	71	80	--	208	16	30	52	--	110
1971	514	268	120	68	58	--	167	11	28	39	--	89
1972	443	246	102	49	46	--	181	13	24	53	--	91
1973	387	231	70	49	37	2/	224	16	32	57	--	119
1974	508	289	104	65	48	2	161	19	28	57	--	57
1975	391	237	71	42	41	2/	146	25	37	38	--	46
1976	437	281	73	35	48	--	121	19	17	31	--	54
1977	416	279	71	29	37	--	94	16	19	26	--	33
1978	491	347	69	30	45	--	82	16	15	27	--	24
1979 3/	567	358	127	27	55	2/	76	18	16	22	2/	20
1980 3/	518	384	65	35	34	--	94	32	18	38	--	6
1981 3/	512	414	51	27	20	2/	86	27	15	25	--	19

1/ 128 cubic feet consisting of 79 cubic feet of wood and 49 cubic feet of bark and air space.

2/ Less than 500 cords.

3/ Includes logs and bolts used in manufacturing particleboard and waferboard.

Table 11.-- Aspen and other hardwood[1/] pulpwood receipts in Wisconsin by area of origin, 1946-1981

(In thousand standard cords, unpeeled)[2/]

Year	Aspen from:						Other hardwoods from:					
	All areas	Wisconsin	Michigan	Minnesota	Other States	Canada	All areas	Wisconsin	Michigan	Minnesota	Other States	Canada
1946	416	202	157	57	--	--	3/	3/	--	3/	--	--
1947	346	187	114	32	--	13	3/	3/	3/	--	--	--
1948	333	167	120	27	--	19	3/	3/	3/	--	--	--
1949	332	181	117	12	--	22	3/	--	3/	--	--	--
1950	387	186	178	22	--	1	21	20	1	--	3/	--
1951	569	270	220	56	3/	23	18	17	1	--	--	--
1952	490	269	171	35	--	15	15	15	3/	--	--	--
1953	552	299	223	20	--	10	42	41	1	--	3/	--
1954	566	336	207	13	--	10	49	49	--	--	--	--
1955	590	345	229	10	--	6	75	75	--	--	--	--
1956	754	492	240	21	--	1	166	158	8	--	--	--
1957	739	437	281	16	--	5	183	172	11	--	--	--
1958	583	355	213	11	--	4	159	145	14	3/	--	--
1959	619	409	198	12	--	--	165	155	10	--	--	--
1960	785	522	250	13	--	3/	208	198	10	--	--	--
1961	741	516	208	17	--	--	196	191	5	--	--	--
1962	784	556	215	13	--	--	206	179	27	--	--	--
1963	877	592	269	16	--	3/	235	227	8	--	--	--
1964	855	586	249	20	--	--	233	214	19	3/	--	--
1965	899	605	278	16	--	3/	219	187	32	--	3/	--
1966	1,112	802	276	34	--	3/	270	234	36	3/	--	--
1967	1,115	738	327	49	--	1	259	199	39	21	--	--
1968	860	617	216	27	--	3/	205	181	23	1	--	--
1969	978	688	250	40	--	3/	278	233	44	1	--	--
1970	1,088	766	265	51	--	6	333	292	40	1	--	--
1971	1,011	714	249	46	--	2	295	264	31	--	--	--
1972	902	660	207	35	--	--	354	326	28	--	--	--
1973	1,006	754	196	56	--	3/	398	367	31	3/	--	--
1974	1,109	791	228	90	--	3/	558	494	62	2	--	--
1975	791	575	150	66	--	3/	288	239	49	3/	--	--
1976	926	681	165	80	--	--	486	419	66	1	--	--
1977	915	684	163	68	--	--	445	377	67	1	--	--
1978	888	655	164	69	--	--	450	363	81	6	--	--
1979[4/]	999	733	183	83	--	--	548	433	113	2	--	--
1980[4/]	1,118	855	179	84	--	--	562	452	109	1	--	--
1981[4/]	1,182	933	167	82	--	--	477	385	91	1	--	--

1/ "Other hardwoods" includes all hardwood roundwood (and chips from roundwood) except aspen and birch.

2/ 128 cubic feet consisting of 79 cubic feet of wood and 49 cubic feet of bark and air space.

3/ Less than 500 cords.

4/ Includes logs and bolts used in manufacturing particleboard and waferboard.

Table 12.-- Receipts of residue for pulpwood in Wisconsin by area of origin, 1964-1981

(In thousand standard cords, unpeeled)[1/]

Year	Softwoods from:						Hardwoods from:					
	All areas	Wisconsin	Michigan	Minnesota	Other States	Canada	All areas	Wisconsin	Michigan	Minnesota	Other States	Canada
1964	96	11	5	[2/]	80	--	92	53	37	2	--	--
1965	91	10	3	1	77	--	92	63	27	2	--	--
1966	100	7	2	2	89	--	89	58	30	1	[2/]	--
1967	135	6	3	2	124	--	124	81	31	12	[2/]	--
1968	160	14	3	2	141	--	118	81	32	5	--	--
1969	192	14	5	2	171	--	121	83	37	1	--	--
1970	189	12	5	3	169	--	152	81	69	2	--	--
1971	193	9	5	3	176	--	140	85	55	[2/]	--	--
1972	198	10	3	1	184	[2/]	142	100	42	--	--	--
1973	279	17	4	1	254	3	149	121	28	--	--	--
1974	257	24	4	[2/]	221	8	189	157	31	1	--	--
1975	216	36	11	[2/]	135	34	165	122	43	[2/]	[2/]	--
1976	256	38	8	--	155	55	117	99	18	[2/]	--	--
1977	299	47	1	--	189	62	124	105	18	1	--	--
1978	301	39	[2/]	[2/]	198	64	145	128	17	[2/]	--	--
1979[3/]	332	46	3	6	206	71	192	170	9	7	6	--
1980[3/]	268	38	7	2	135	86	254	216	28	8	2	--
1981[3/]	252	47	5	2	142	56	259	219	36	3	1	--

[1/] 128 cubic feet consisting of 79 cubic feet of wood and 49 cubic feet of bark and air space.

[2/] Less than 500 cords.

[3/] Includes logs and bolts used in manufacturing particleboard and waferboard.

Table 13.--Pulpwood receipts in Wisconsin by species group and area of origin, 1981

(In thousand standard cords, unpeeled)[1/]

Species group	Total	Area of origin				
		Wisconsin	Michigan	Minnesota	Other States	Canada
Roundwood[2/]						
Pine	512	414	51	27	20	[3/]
Balsam fir	135	104	30	1	--	--
Hemlock	31	28	3	--	--	--
Spruce	86	27	15	25	--	19
Tamarack	31	5	1	25	--	[3/]
Aspen	1,182	933	167	82	--	--
Birch	189	158	20	11	--	--
Other hardwoods	477	385	91	1	--	--
Total	2,643	2,054	378	172	20	19
Residue						
Softwoods	252	47	5	2	142	56
Hardwoods	259	219	36	3	1	--
Total	511	266	41	5	143	56
All material	3,154	2,320	419	177	163	75

[1/]128 cubic feet consisting of 79 cubic feet of wood and 49 cubic feet of bark and air space.

[2/]Includes chips from roundwood.

[3/]Less than 500 cords.

Table 14.--Saw log production and receipts in Wisconsin by species group, 1973 and 1981

(In thousand board feet)[1/]

Species group	Production			Receipts		
	1973	1981	Change	1973	1981	Change
Softwoods						
Cedar	884	2,045	1,161	879	3,047	2,168
Balsam fir	448	5,150	4,702	1,890	7,154	5,264
Hemlock	7,031	8,913	1,882	7,095	9,638	2,543
Jack pine	2,945	5,043	2,098	4,295	6,921	2,626
Red pine	8,381	14,669	6,288	10,391	16,544	6,153
White pine	23,624	36,628	13,004	26,212	41,263	15,051
Spruce	259	3,147	2,888	303	4,368	4,065
Tamarack	69	88	19	69	183	114
Total	43,641	75,683	32,042	51,134	89,118	37,984
Hardwoods						
Ash	8,669	11,860	3,191	8,654	12,116	3,462
Aspen	74,339	76,407	2,068	82,192	88,708	6,516
Balsam poplar	382	954	572	461	965	504
Basswood	21,258	28,039	6,781	21,935	29,275	7,340
Beech	2,029	2,702	673	2,066	2,766	700
Paper birch	6,797	9,186	2,389	7,950	10,579	2,629
Yellow birch	5,844	4,658	-1,186	5,930	5,443	-487
Cottonwood	1,598	1,378	-220	1,710	1,383	-327
Elm	58,064	42,840	-15,224	58,687	45,962	-12,725
Hickory	1,395	2,105	710	1,396	2,318	922
Hard maple	39,116	46,753	7,637	40,017	53,608	13,591
Soft maple	17,776	18,607	831	17,982	18,772	790
Red oak	84,669	132,565	47,896	87,894	139,242	51,348
White oak	18,527	34,490	15,963	18,684	35,932	17,248
Walnut	1,300	753	-547	402	823	421
Other hardwoods	1,139	1,795	656	1,197	1,852	655
Total	342,902	415,092	72,190	357,157	449,744	92,587
All species	386,543	490,775	104,232	408,291	538,862	130,571

[1/]International 1/4-inch rule.

Table 15.--Saw log production by Forest Survey Unit, species group,and State of destination, Wisconsin, 1981

(In thousand board feet)[1/]

Species group	All states	State of destination		
		Wisconsin	Michigan	Minnesota
ALL UNITS				
Softwoods				
Cedar	2,045	2,045	--	--
Balsam fir	5,150	5,150	--	--
Hemlock	8,913	8,913	--	--
Jack pine	5,043	5,043	--	--
Red pine	14,669	14,669	--	--
White pine	36,628	36,628	--	--
Spruce	3,147	3,147	--	--
Tamarack	88	88	--	--
Total	75,683	75,683	--	--
Hardwoods				
Ash	11,860	11,808	52	--
Aspen	76,407	76,302	89	16
Balsam poplar	954	954	--	--
Basswood	28,039	27,883	156	--
Beech	2,702	2,702	--	--
Paper birch	9,186	9,160	26	--
Yellow birch	4,658	4,648	10	--
Cottonwood	1,378	1,377	1	--
Elm	42,840	42,818	22	--
Hickory	2,105	2,105	--	--
Hard maple	46,753	46,541	212	--
Soft maple	18,607	18,549	58	--
Red oak	132,565	132,454	111	--
White oak	34,490	34,475	15	--
Walnut	753	753	--	--
Other hardwoods	1,795	1,793	2	--
Total	415,092	414,322	754	16
All species	490,775	490,005	754	16
NORTHEAST UNIT				
Softwoods				
Cedar	1,355	1,355	--	--
Balsam fir	1,309	1,309	--	--
Hemlock	7,721	7,721	--	--
Jack pine	1,151	1,151	--	--
Red pine	5,537	5,537	--	--
White pine	13,418	13,418	--	--
Spruce	823	823	--	--
Tamarack	9	9	--	--
Total	31,323	31,323	--	--
Hardwoods				
Ash	2,847	2,795	52	--
Aspen	36,743	36,654	89	--
Balsam poplar	262	262	--	--
Basswood	8,598	8,442	156	--
Beech	1,688	1,688	--	--
Paper birch	5,596	5,570	26	--
Yellow birch	3,345	3,335	10	--
Cottonwood	239	238	1	--
Elm	20,240	20,218	22	--
Hickory	510	510	--	--
Hard maple	22,554	22,342	212	--
Soft maple	5,417	5,359	58	--
Red oak	9,025	8,914	111	--
White oak	755	740	15	--
Walnut	1	1	--	--
Other hardwoods	409	407	2	--
Total	118,229	117,475	754	--
All species	149,552	148,798	754	--

(Table 15 continued on next page)

[1/] International 1/4-inch rule.

(Table 15 continued)

Species group	All states	State of destination		
		Wisconsin	Michigan	Minnesota
NORTHWEST UNIT				
Softwoods				
Cedar	134	134	--	--
Balsam fir	3,818	3,818	--	--
Hemlock	157	157	--	--
Jack pine	3,616	3,616	--	--
Red pine	6,600	6,600	--	--
White pine	9,163	9,163	--	--
Spruce	2,231	2,231	--	--
Tamarack	71	71	--	--
Total	25,790	25,790	--	--
Hardwoods				
Ash	3,060	3,060	--	--
Aspen	24,679	24,679	--	--
Balsam poplar	502	502	--	--
Basswood	7,222	7,222	--	--
Beech	520	520	--	--
Paper birch	2,529	2,529	--	--
Yellow birch	798	798	--	--
Cottonwood	14	14	--	--
Elm	13,130	13,130	--	--
Hickory	40	40	--	--
Hard maple	8,525	8,525	--	--
Soft maple	2,483	2,483	--	--
Red oak	14,456	14,456	--	--
White oak	2,998	2,998	--	--
Walnut	25	25	--	--
Other hardwoods	134	134	--	--
Total	81,115	81,115	--	--
All species	106,905	106,905	--	--
CENTRAL UNIT				
Softwoods				
Cedar	137	137	--	--
Balsam fir	16	16	--	--
Hemlock	790	790	--	--
Jack pine	167	167	--	--
Red pine	1,974	1,974	--	--
White pine	10,053	10,053	--	--
Spruce	87	87	--	--
Tamarack	--	--	--	--
Total	13,224	13,224	--	--
Hardwoods				
Ash	2,547	2,547	--	--
Aspen	10,876	10,876	--	--
Balsam poplar	11	11	--	--
Basswood	5,174	5,174	--	--
Beech	203	203	--	--
Paper birch	570	570	--	--
Yellow birch	497	497	--	--
Cottonwood	24	24	--	--
Elm	4,481	4,481	--	--
Hickory	367	367	--	--
Hard maple	7,277	7,277	--	--
Soft maple	4,941	4,941	--	--
Red oak	38,487	38,487	--	--
White oak	9,815	9,815	--	--
Walnut	24	24	--	--
Other hardwoods	220	220	--	--
Total	85,514	85,514	--	--
All species	98,738	98,738	--	--

(Table 15 continued on next page)

(Table 15 continued)

Species group	All states	State of destination		
		Wisconsin	Michigan	Minnesota
SOUTHWEST UNIT				
Softwoods				
Cedar	2	2	--	--
Balsam fir	--	--	--	--
Hemlock	--	--	--	--
Jack pine	109	109	--	--
Red pine	486	486	--	--
White pine	3,404	3,404	--	--
Spruce	1	1	--	--
Tamarack	--	--	--	--
Total	4,002	4,002	--	--
Hardwoods				
Ash	1,726	1,726	--	--
Aspen	3,367	3,351	--	16
Balsam poplar	81	81	--	--
Basswood	5,958	5,958	--	--
Beech	--	--	--	--
Paper birch	256	256	--	--
Yellow birch	5	5	--	--
Cottonwood	421	421	--	--
Elm	3,981	3,981	--	--
Hickory	1,000	1,000	--	--
Hard maple	6,752	6,752	--	--
Soft maple	2,773	2,773	--	--
Red oak	64,521	64,521	--	--
White oak	16,389	16,389	--	--
Walnut	484	484	--	--
Other hardwoods	665	665	--	--
Total	108,379	108,363	--	16
All species	112,381	112,365	--	16
SOUTHEAST UNIT				
Softwoods				
Cedar	417	417	--	--
Balsam fir	7	7	--	--
Hemlock	245	245	--	--
Jack pine	--	--	--	--
Red pine	72	72	--	--
White pine	590	590	--	--
Spruce	5	5	--	--
Tamarack	8	8	--	--
Total	1,344	1,344	--	--
Hardwoods				
Ash	1,680	1,680	--	--
Aspen	742	742	--	--
Balsam poplar	98	98	--	--
Basswood	1,087	1,087	--	--
Beech	291	291	--	--
Paper birch	235	235	--	--
Yellow birch	13	13	--	--
Cottonwood	680	680	--	--
Elm	1,008	1,008	--	--
Hickory	188	188	--	--
Hard maple	1,645	1,645	--	--
Soft maple	2,993	2,993	--	--
Red oak	6,076	6,076	--	--
White oak	4,533	4,533	--	--
Walnut	219	219	--	--
Other hardwoods	367	367	--	--
Total	21,855	21,855	--	--
All species	23,199	23,199	--	--

Table 16.--Saw log production by Forest Survey Unit, county and species group, Wisconsin, 1981

(In thousand board feet)[1/]

Unit and county	All species	Species group											
		Cedar	Balsam fir	Hemlock	Jack pine	Red pine	White pine	Spruce	Tama-rack	Ash	Aspen	Balsam poplar	Bass-wood
Northeast Unit													
Florence	5,267	13	14	577	--	107	395	71	--	72	597	--	507
Forest	25,399	225	307	989	34	284	900	112	--	177	7,855	1	1,355
Langlade	12,209	66	55	389	11	394	217	11	--	496	2,610	--	1,140
Lincoln	9,223	3	24	27	2	623	546	13	9	410	1,933	--	679
Marinette	19,271	190	271	1,091	28	414	1,708	141	--	263	6,900	162	1,035
Menominee	18,648	15	--	3,645	--	21	4,190	1	--	108	243	--	1,660
Oconto	14,930	143	136	227	116	401	381	72	--	294	6,117	96	541
Oneida	15,678	103	301	114	514	1,724	2,184	216	--	142	5,133	--	282
Shawano	16,229	572	22	562	--	270	690	8	--	851	1,279	3	1,345
Vilas	12,698	25	179	100	446	1,299	2,207	178	--	34	4,076	--	54
Total	149,552	1,355	1,309	7,721	1,151	5,537	13,418	823	9	2,847	36,743	262	8,598
Northwest Unit													
Ashland	10,461	50	636	16	654	720	1,293	432	63	196	982	--	489
Barron	6,604	--	--	--	3	56	361	--	--	182	1,066	--	444
Bayfield	12,356	5	1,559	--	1,743	2,267	2,102	961	--	24	2,069	--	73
Burnett	3,317	--	--	--	146	244	253	--	2	69	878	--	55
Douglas	1,931	--	442	--	25	161	157	58	--	20	777	--	25
Iron	7,744	42	309	11	298	444	488	254	--	116	2,401	--	258
Polk	8,121	--	--	--	12	26	106	--	--	338	1,099	--	628
Price	17,078	12	155	60	22	298	993	79	6	755	3,677	--	2,562
Rusk	15,249	--	1	6	--	455	779	5	--	488	4,521	502	1,466
Sawyer	11,055	2	325	16	329	511	1,276	196	--	419	3,945	--	569
Taylor	9,010	23	42	48	--	808	965	29	--	448	1,893	--	572
Washburn	3,979	--	349	--	384	610	390	217	--	5	1,371	--	81
Total	106,905	134	3,818	157	3,616	6,600	9,163	2,231	71	3,060	24,679	502	7,222
Central Unit													
Adams	1,496	--	--	--	--	58	360	--	--	30	28	--	26
Chippewa	15,735	1	--	--	--	149	658	--	--	311	3,240	--	762
Clark	13,271	--	--	--	--	195	1,413	--	--	412	2,024	--	1,017
Eau Claire	7,885	--	5	--	--	323	1,225	10	--	93	615	--	112
Jackson	6,340	--	--	--	128	181	1,255	50	--	39	309	--	149
Juneau	6,179	--	--	--	--	70	394	--	--	66	1,140	--	146
Marathon	12,634	30	11	478	--	144	521	27	--	527	1,404	--	1,362
Marquette	838	--	--	--	--	33	75	--	--	19	14	--	11
Monroe	9,342	--	--	--	--	128	1,020	--	--	89	204	--	139
Portage	4,103	5	--	55	8	211	794	--	--	64	562	--	386
Waupaca	13,683	98	--	257	3	47	1,452	--	--	587	564	11	727
Waushara	2,201	--	--	--	--	238	232	--	--	122	96	--	24
Wood	5,031	3	--	--	28	197	654	--	--	188	676	--	313
Total	98,738	137	16	790	167	1,974	10,053	87	--	2,547	10,876	11	5,174

(Table 16 continued on next page)

[1/] International 1/4-inch rule.

(Table 16 continued)

Unit and county	All species	Species group											
		Cedar	Balsam fir	Hemlock	Jack pine	Red pine	White pine	Spruce	Tamarack	Ash	Aspen	Balsam poplar	Basswood
Southwest Unit													
Buffalo	15,470	--	--	--	--	5	71	--	--	135	270	81	701
Crawford	6,990	--	--	--	--	--	--	--	--	126	54	--	159
Dunn	14,215	--	--	--	108	254	2,565	--	--	352	681	--	1,038
Grant	8,149	1	--	--	1	11	5	--	--	62	51	--	322
Iowa	5,353	--	--	--	--	--	1	--	--	58	33	--	159
La Crosse	6,727	--	--	--	--	--	1	--	--	59	110	--	112
Lafayette	310	--	--	--	--	--	--	--	--	--	--	--	5
Pepin	3,465	--	--	--	--	56	254	--	--	66	77	--	198
Pierce	5,413	--	--	--	--	--	7	--	--	172	82	--	1,393
Richland	6,878	--	--	--	--	--	63	--	--	222	366	--	482
St. Croix	783	--	--	--	--	--	24	--	--	31	16	--	43
Sauk	11,890	1	--	--	--	4	56	--	--	118	529	--	446
Trempealeau	13,405	--	--	--	--	134	261	--	--	81	828	--	407
Vernon	13,333	--	--	--	--	22	96	1	--	244	270	--	493
Total	112,381	2	--	--	109	486	3,404	1	--	1,726	3,367	81	5,958
Southeast Unit													
Brown	1,137	22	2	--	--	18	83	--	--	68	35	22	42
Calumet	491	2	--	--	--	--	9	--	--	20	7	2	93
Columbia	2,881	--	--	--	--	14	61	--	--	26	30	--	119
Dane	1,966	--	--	--	--	--	--	1	--	6	4	--	55
Dodge	795	2	--	--	--	--	--	--	--	126	1	--	22
Door	928	130	4	57	--	25	64	2	3	41	129	41	28
Fond du Lac	361	2	1	--	--	1	1	--	--	34	3	--	40
Green	829	--	--	--	--	--	--	--	--	38	--	--	44
Green Lake	406	--	--	--	--	10	17	--	--	5	5	--	2
Jefferson	447	--	--	--	--	--	--	--	--	39	1	--	24
Kenosha	73	--	--	--	--	--	--	--	--	--	--	--	--
Kewaunee	1,441	159	--	83	--	--	60	1	2	138	117	29	58
Manitowoc	2,844	89	--	105	--	2	163	--	2	191	57	3	117
Milwaukee	287	--	--	--	--	--	--	--	--	--	--	--	11
Outagamie	2,166	--	--	--	--	--	39	--	--	415	339	1	122
Ozaukee	291	3	--	--	--	--	--	--	--	53	1	--	7
Racine	723	--	--	--	--	2	--	1	--	26	--	--	21
Rock	1,113	--	--	--	--	--	--	--	--	18	--	--	29
Sheboygan	1,998	8	--	--	--	--	86	--	--	231	13	--	189
Walworth	507	--	--	--	--	--	--	--	--	39	--	--	3
Washington	964	--	--	--	--	--	--	--	--	147	--	--	40
Waukesha	340	--	--	--	--	--	--	--	--	--	--	--	19
Winnebago	211	--	--	--	--	--	7	--	1	19	--	--	2
Total	23,199	417	7	245	--	72	590	5	8	1,680	742	98	1,087
State total	490,775	2,045	5,150	8,913	5,043	14,669	36,628	3,147	88	11,860	76,407	954	28,039

(Table 16 continued on next page)

(Table 16 continued)

Unit and county	Species group											
	Beech	Paper birch	Yellow birch	Cotton-wood	Elm	Hickory	Hard maple	Soft maple	Red oak	White oak	Walnut	Other hardwoods
Northeast Unit												
Florence	--	74	238	--	505	--	1,811	85	187	--	--	14
Forest	--	747	922	--	5,251	--	5,564	315	303	--	--	58
Langlade	405	497	241	--	1,996	25	2,579	526	458	39	--	54
Lincoln	45	385	84	170	1,187	182	1,329	548	1,005	4	--	15
Marinette	147	724	286	7	607	--	1,891	1,160	1,883	349	--	14
Menominee	251	7	470	--	4,705	16	2,399	220	641	4	--	52
Oconto	196	804	346	35	1,665	--	1,352	1,239	514	240	--	15
Oneida	--	1,178	225	--	920	--	1,049	324	1,259	--	--	10
Shawano	644	211	173	27	2,636	287	3,538	800	2,035	100	1	175
Vilas	--	969	360	--	768	--	1,042	200	740	19	--	2
Total	1,688	5,596	3,345	239	20,240	510	22,554	5,417	9,025	755	1	409
Northwest Unit												
Ashland	--	109	180	--	3,133	--	1,207	83	192	15	--	11
Barron	--	10	6	1	523	1	624	148	2,452	681	--	46
Bayfield	--	601	19	--	16	--	130	37	722	28	--	--
Burnett	--	85	--	3	107	--	35	13	968	457	--	2
Douglas	--	42	3	--	--	--	30	5	186	--	--	--
Iron	--	371	170	--	1,196	--	884	123	364	15	--	--
Polk	--	31	--	10	570	15	354	96	3,401	1,426	--	9
Price	364	350	127	--	3,467	--	2,425	936	724	49	5	12
Rusk	52	17	104	--	2,181	24	1,366	347	2,781	129	10	15
Sawyer	52	764	45	--	776	--	516	204	1,031	60	--	19
Taylor	52	134	143	--	1,105	--	921	453	1,263	85	10	16
Washburn	--	15	1	--	56	--	33	38	372	53	--	4
Total	520	2,529	798	14	13,130	40	8,525	2,483	14,456	2,998	25	134
Central Unit												
Adams	--	11	--	6	39	1	29	49	697	161	--	1
Chippewa	--	108	2	--	617	12	516	465	7,122	1,770	2	--
Clark	--	8	107	--	650	9	1,614	831	3,844	1,103	10	34
Eau Claire	--	5	2	1	139	13	114	200	3,993	1,026	6	3
Jackson	--	22	--	--	74	52	54	60	3,172	777	1	17
Juneau	--	16	--	16	130	24	137	204	3,129	706	--	1
Marathon	108	176	329	--	1,188	30	2,344	1,002	2,722	175	1	55
Marquette	--	3	1	--	18	--	13	42	447	161	--	1
Monroe	--	17	--	1	241	151	395	110	5,352	1,488	3	4
Portage	--	14	3	--	69	8	97	181	1,409	226	--	11
Waupaca	95	155	37	--	1,002	65	1,591	1,411	3,929	1,584	--	68
Waushara	--	23	5	--	46	2	34	177	838	358	--	6
Wood	--	12	11	--	268	--	339	209	1,833	280	1	19
Total	203	570	497	24	4,481	367	7,277	4,941	38,487	9,815	24	220

(Table 16 continued on next page)

(Table 16 continued)

Unit and county	Species group											
	Beech	Paper birch	Yellow birch	Cotton-wood	Elm	Hickory	Hard maple	Soft maple	Red oak	White oak	Walnut	Other hardwoods
Southwest Unit												
Buffalo	--	58	--	138	576	206	215	253	11,223	1,373	10	155
Crawford	--	17	--	11	245	50	382	--	4,733	1,103	70	40
Dunn	--	28	1	57	577	41	1,104	459	5,805	1,086	--	59
Grant	--	--	--	55	382	8	201	190	3,636	2,970	213	41
Iowa	--	--	--	1	110	57	75	24	3,089	1,678	52	16
La Crosse	--	22	--	6	169	123	98	179	4,881	959	2	6
Lafayette	--	--	--	--	7	--	--	--	37	249	7	5
Pepin	--	5	--	9	128	13	279	76	1,795	497	--	12
Pierce	--	21	4	58	631	26	1,401	127	1,248	239	--	4
Richland	--	--	--	10	245	27	1,235	111	3,051	941	74	51
St. Croix	--	--	--	--	71	5	83	37	396	36	5	36
Sauk	--	--	--	10	205	85	425	565	7,637	1,652	40	117
Trempealeau	--	68	--	36	241	118	172	236	9,163	1,574	--	86
Vernon	--	37	--	30	394	241	1,082	516	7,827	2,032	11	37
Total	--	256	5	421	3,981	1,000	6,752	2,773	64,521	16,389	484	665
Southeast Unit												
Brown	22	42	1	188	65	--	70	86	249	111	--	11
Calumet	7	1	--	9	21	1	117	32	67	103	--	--
Columbia	--	--	--	17	159	6	147	34	929	1,290	1	48
Dane	--	--	--	3	22	16	29	23	1,095	545	58	109
Dodge	--	--	--	19	36	6	98	32	220	203	2	28
Door	78	100	4	16	16	--	50	25	103	4	1	7
Fond du Lac	5	2	--	2	20	17	42	71	77	38	--	5
Green	--	--	--	--	38	7	36	25	371	172	67	31
Green Lake	1	1	--	--	6	2	8	3	174	170	--	2
Jefferson	--	--	--	2	9	12	45	--	111	168	6	30
Kenosha	--	--	--	10	32	--	--	--	18	10	3	--
Kewaunee	41	31	--	34	32	--	64	545	35	10	--	2
Manitowoc	69	53	8	64	40	1	241	1,012	487	135	--	5
Milwaukee	--	--	--	11	92	--	22	22	43	86	--	--
Outagamie	1	2	--	216	131	1	44	575	133	115	1	31
Ozaukee	1	--	--	--	5	--	8	179	24	10	--	--
Racine	--	--	--	36	40	43	70	32	229	214	7	2
Rock	--	--	--	17	70	16	65	76	432	303	49	38
Sheboygan	59	3	--	10	109	18	231	118	613	304	--	6
Walworth	--	--	--	9	--	22	30	5	209	157	24	9
Washington	7	--	--	--	21	20	191	8	348	179	--	3
Waukesha	--	--	--	16	32	--	32	32	69	140	--	--
Winnebago	--	--	--	1	12	--	5	58	40	66	--	--
Total	291	235	13	680	1,008	188	1,645	2,993	6,076	4,533	219	367
State total	2,702	9,186	4,658	1,378	42,840	2,105	46,753	18,607	132,565	34,490	753	1,795

Table 17.--Saw log receipts in Wisconsin by Forest Survey Unit, species group, and area of origin, 1981

(In thousand board feet)[1/]

Species group	All areas	Area of origin					
		Wisconsin	Michigan	Minnesota	Iowa	Illinois	Canada
ALL UNITS							
Softwoods							
Cedar	3,047	2,045	997	5	--	--	--
Balsam fir	7,154	5,150	1,088	916	--	--	--
Hemlock	9,638	8,913	725	--	--	--	--
Jack pine	6,921	5,043	1,292	586	--	--	--
Red pine	16,544	14,669	1,460	415	--	--	--
White pine	41,263	36,628	4,198	437	--	--	--
Spruce	4,368	3,147	831	390	--	--	--
Tamarack	183	88	50	45	--	--	--
Total	89,118	75,683	10,641	2,794	--	--	--
Hardwoods							
Ash	12,116	11,808	214	93	1	--	--
Aspen	88,708	76,302	11,978	428	--	--	--
Balsam poplar	965	954	11	--	--	--	--
Basswood	29,275	27,883	1,232	149	11	--	--
Beech	2,766	2,702	64	--	--	--	--
Paper birch	10,579	9,160	1,392	26	--	--	1
Yellow birch	5,443	4,648	795	--	--	--	--
Cottonwood	1,383	1,377	--	6	--	--	--
Elm	45,962	42,818	2,745	382	17	--	--
Hickory	2,318	2,105	99	114	--	--	--
Hard maple	53,608	46,541	6,795	249	23	--	--
Soft maple	18,772	18,549	214	9	--	--	--
Red oak	139,242	132,454	2,709	3,587	481	11	--
White oak	35,932	34,475	493	770	168	26	--
Walnut	823	753	2	13	55	--	--
Other hardwoods	1,852	1,793	53	5	1	--	--
Total	449,744	414,322	28,796	5,831	757	37	1
All species	538,862	490,005	39,437	8,625	757	37	1
NORTHEAST UNIT							
Softwoods							
Cedar	2,161	1,273	888	--	--	--	--
Balsam fir	1,097	1,006	91	--	--	--	--
Hemlock	7,217	6,653	564	--	--	--	--
Jack pine	963	736	227	--	--	--	--
Red pine	5,887	5,130	757	--	--	--	--
White pine	16,167	12,714	3,453	--	--	--	--
Spruce	684	523	161	--	--	--	--
Tamarack	9	9	--	--	--	--	--
Total	34,185	28,044	6,141	--	--	--	--
Hardwoods							
Ash	3,088	2,984	104	--	--	--	--
Aspen	49,386	37,966	11,420	--	--	--	--
Balsam poplar	284	273	11	--	--	--	--
Basswood	9,337	8,221	1,116	--	--	--	--
Beech	1,804	1,762	42	--	--	--	--
Paper birch	7,908	6,549	1,359	--	--	--	--
Yellow birch	3,838	3,380	458	--	--	--	--
Cottonwood	31	31	--	--	--	--	--
Elm	24,630	22,067	2,563	--	--	--	--
Hickory	405	405	--	--	--	--	--
Hard maple	30,131	24,768	5,363	--	--	--	--
Soft maple	5,937	5,766	171	--	--	--	--
Red oak	12,049	11,725	324	--	--	--	--
White oak	803	798	5	--	--	--	--
Walnut	2	2	--	--	--	--	--
Other hardwoods	492	442	50	--	--	--	--
Total	150,125	127,139	22,986	--	--	--	--
All species	184,310	155,183	29,127	--	--	--	--

(Table 17 continued on next page)

[1/] International 1/4-inch rule.

(Table 17 continued)

Species group	All areas	Area of origin					
		Wisconsin	Michigan	Minnesota	Iowa	Illinois	Canada
NORTHWEST UNIT							
Softwoods							
Cedar	161	86	70	5	--	--	--
Balsam fir	6,021	4,108	997	916	--	--	--
Hemlock	260	138	122	--	--	--	--
Jack pine	5,671	4,020	1,065	586	--	--	--
Red pine	7,532	6,414	703	415	--	--	--
White pine	9,165	8,083	645	437	--	--	--
Spruce	3,369	2,359	620	390	--	--	--
Tamarack	166	71	50	45	--	--	--
Total	32,345	25,279	4,272	2,794	--	--	--
Hardwoods							
Ash	2,186	2,149	22	15	--	--	--
Aspen	20,474	19,514	553	407	--	--	--
Balsam poplar	502	502	--	--	--	--	--
Basswood	5,237	5,083	97	57	--	--	--
Beech	542	520	22	--	--	--	--
Paper birch	1,463	1,462	--	1	--	--	--
Yellow birch	753	429	324	--	--	--	--
Cottonwood	20	14	--	6	--	--	--
Elm	10,050	9,877	--	173	--	--	--
Hickory	52	52	--	--	--	--	--
Hard maple	6,571	5,360	1,199	12	--	--	--
Soft maple	1,696	1,669	22	5	--	--	--
Red oak	10,503	10,386	11	106	--	--	--
White oak	2,537	2,505	--	32	--	--	--
Walnut	5	5	--	--	--	--	--
Other hardwoods	79	79	--	--	--	--	--
Total	62,670	59,606	2,250	814	--	--	--
All species	95,015	84,885	6,522	3,608	--	--	--
CENTRAL UNIT							
Softwoods							
Cedar	245	206	39	--	--	--	--
Balsam fir	31	31	--	--	--	--	--
Hemlock	1,507	1,468	39	--	--	--	--
Jack pine	70	70	--	--	--	--	--
Red pine	2,372	2,372	--	--	--	--	--
White pine	10,749	10,649	100	--	--	--	--
Spruce	309	259	50	--	--	--	--
Total	15,283	15,055	228	--	--	--	--
Hardwoods							
Ash	2,917	2,899	18	--	--	--	--
Aspen	14,815	14,815	--	--	--	--	--
Basswood	6,485	6,485	--	--	--	--	--
Beech	46	46	--	--	--	--	--
Paper birch	566	556	10	--	--	--	--
Yellow birch	765	752	13	--	--	--	--
Cottonwood	433	433	--	--	--	--	--
Elm	5,774	5,738	36	--	--	--	--
Hickory	397	397	--	--	--	--	--
Hard maple	7,191	7,045	92	54	--	--	--
Soft maple	5,022	5,001	21	--	--	--	--
Red oak	39,504	39,327	42	135	--	--	--
White oak	10,730	10,649	--	81	--	--	--
Walnut	47	47	--	--	--	--	--
Other hardwoods	266	266	--	--	--	--	--
Total	94,958	94,456	232	270	--	--	--
All species	110,241	109,511	460	270	--	--	--

(Table 17 continued on next page)

(Table 17 continued)

Species group	All areas	Area of origin					
		Wisconsin	Michigan	Minnesota	Iowa	Illinois	Canada
SOUTHWEST UNIT							
Softwoods							
Cedar	1	1	--	--	--	--	--
Jack pine	217	217	--	--	--	--	--
Red pine	445	445	--	--	--	--	--
White pine	3,290	3,290	--	--	--	--	--
Spruce	1	1	--	--	--	--	--
Total	3,954	3,954	--	--	--	--	--
Hardwoods							
Ash	1,936	1,787	78	70	1	--	--
Aspen	2,272	2,246	21	5	--	--	--
Balsam poplar	81	81	--	--	--	--	--
Basswood	6,304	6,182	92	19	11	--	--
Paper birch	331	283	25	23	--	--	--
Yellow birch	4	4	--	--	--	--	--
Cottonwood	383	383	--	--	--	--	--
Elm	4,081	3,709	209	146	17	--	--
Hickory	1,226	1,013	114	99	--	--	--
Hard maple	7,278	6,931	183	141	23	--	--
Soft maple	2,382	2,378	4	--	--	--	--
Red oak	70,505	64,346	3,346	2,332	481	--	--
White oak	17,791	16,478	657	488	168	--	--
Walnut	488	428	3	2	55	--	--
Other hardwoods	643	634	5	3	1	--	--
Total	115,705	106,883	4,737	3,328	757	--	--
All species	119,659	110,837	4,737	3,328	757	--	--
SOUTHEAST UNIT							
Softwoods							
Cedar	479	479	--	--	--	--	--
Balsam fir	5	5	--	--	--	--	--
Hemlock	654	654	--	--	--	--	--
Red pine	308	308	--	--	--	--	--
White pine	1,892	1,892	--	--	--	--	--
Spruce	5	5	--	--	--	--	--
Tamarack	8	8	--	--	--	--	--
Total	3,351	3,351	--	--	--	--	--
Hardwoods							
Ash	1,989	1,989	--	--	--	--	--
Aspen	1,761	1,761	--	--	--	--	--
Balsam poplar	98	98	--	--	--	--	--
Basswood	1,912	1,912	--	--	--	--	--
Beech	374	374	--	--	--	--	--
Paper birch	311	310	--	--	--	--	1
Yellow birch	83	83	--	--	--	--	--
Cottonwood	516	516	--	--	--	--	--
Elm	1,427	1,427	--	--	--	--	--
Hickory	238	238	--	--	--	--	--
Hard maple	2,437	2,437	--	--	--	--	--
Soft maple	3,735	3,735	--	--	--	--	--
Red oak	6,681	6,670	--	--	--	11	--
White oak	4,071	4,045	--	--	--	26	--
Walnut	281	271	--	10	--	--	--
Other hardwoods	372	372	--	--	--	--	--
Total	26,286	26,238	--	10	--	37	1
All species	29,637	29,589	--	10	--	37	1

Table 18.--Veneer log production and receipts in Wisconsin for selected years, 1946-1981

(In thousand board feet)[1/]

Year	Production	Receipts
1946	29,267	68,116
1948	32,026	71,791
1950	26,652	62,935
1952	29,956	59,500
1954	27,109	59,573
1956	30,403	66,949
1958	23,740	43,063
1960	25,467	51,298
1962	21,919	37,517
1963	25,203	41,918
1965	23,782	43,104
1966	22,867	42,162
1968	21,037	37,571
1970	15,814	29,896
1972	19,465	36,491
1973	32,224[2/]	37,804
1974	37,342[2/]	41,605
1975	31,692[2/]	33,294
1976	31,685[2/]	36,971
1980	20,863[2/]	27,903
1981	27,250[2/]	34,540

[1/] International 1/4-inch rule.

[2/] Includes Wisconsin veneer logs received at Iron Wood Products Co.; such receipts are not shown before 1973.

Table 19.--Veneer log production and receipts by species group in Wisconsin, 1973 and 1981

(In thousand board feet)[1/]

	Production			Receipts		
Species group	1973	1981	Change	1973	1981	Change
White pine	45	44	-1	45	174	129
Ash	355	290	-65	463	590	127
Aspen	11,538	12,971	1,433	445	572	127
Balsam poplar	21	--	-21	21	--	-21
Basswood	1,149	1,042	-107	2,140	1,575	-565
Beech	41	4	-37	581	67	-514
Paper birch	195	441	246	769	576	-193
Yellow birch	843	1,291	448	3,415	2,497	-918
Cottonwood	54	83	29	1,109	521	-588
Elm	4,890	1,988	-2,902	5,999	2,370	-3,629
Hard maple	4,090	2,321	-1,769	11,442	12,744	1,302
Soft maple	654	511	-143	1,000	1,179	179
Red oak	7,312	5,939	-1,373	10,195	11,293	1,098
White oak	118	244	126	80	338	258
Walnut	667	34	-633	--	--	--
Other species	252	47	-205	100	44	-56
All species	32,224	27,250	-4,974	37,804	34,540	-3,264

[1/] International 1/4-inch rule.

Table 20.--Veneer log production by species group and State or country of destination, Wisconsin, 1981

(In thousand board feet)[1/]

Species group	Total	Destination of wood						
		Wisconsin	Michigan	Indiana	Kentucky	Minnesota	Canada	Other Countries
Softwoods								
White pine	44	44	--	--	--	--	--	--
Total	44	44	--	--	--	--	--	--
Hardwoods								
Ash	290	290	--	--	--	--	--	--
Aspen	12,971	571	12,384	--	--	16	--	--
Basswood	1,042	1,042	--	--	--	--	--	--
Beech	4	4	--	--	--	--	--	--
Paper birch	441	441	--	--	--	--	--	--
Yellow birch	1,291	1,283	--	--	--	--	--	8
Cottonwood	83	83	--	--	--	--	--	--
Elm	1,988	1,846	--	--	--	--	30	112
Hard maple	2,321	2,321	--	--	--	--	--	--
Soft maple	511	511	--	--	--	--	--	--
Red oak	5,939	5,641	--	234	--	--	--	64
White oak	244	145	--	--	23	--	--	76
Walnut	34	--	--	--	34	--	--	--
Other hardwoods	47	23	--	--		--	24	--
Total	27,206	14,201	12,384	234	57	16	54	260
All species	27,250	14,245	12,384	234	57	16	54	260

[1/] International 1/4-inch rule.

Table 21.--Veneer log production by Forest Survey Unit, county, and species group, Wisconsin, 1981

(In thousand board feet)[1/]

Unit and county	All species	Species group														
		White pine	Ash	Aspen	Bass-wood	Beech	Paper birch	Yellow birch	Cotton-wood	Elm	Hard maple	Soft maple	Red oak	White oak	Walnut	Other hardwoods
Northeast Unit																
Florence	496	2	3	--	--	--	19	239	--	73	132	--	28	--	--	--
Forest	721	--	1	6	71	--	20	106	--	238	245	2	27	--	--	5
Langlade	715	--	3	37	63	2	15	47	--	129	250	15	131	16	--	7
Lincoln	369	--	1	8	15	--	21	33	--	105	106	11	69	--	--	--
Marinette	730	14	27	--	--	--	56	28	--	131	101	34	326	8	--	5
Menominee	547	--	--	--	--	--	9	167	--	79	183	5	104	--	--	--
Oconto	259	--	--	--	--	--	27	29	--	112	47	6	38	--	--	--
Oneida	394	--	11	1	20	--	46	49	--	20	62	5	180	--	--	--
Shawano	1,370	1	38	49	152	2	20	42	--	246	346	133	306	5	--	30
Vilas	1,207	--	--	894	--	--	35	71	--	20	84	--	103	--	--	--
Total	6,808	17	84	995	321	4	268	811	--	1,153	1,556	211	1,312	29	--	47
Northwest Unit																
Ashland	265	6	27	--	35	--	14	56	--	16	68	--	43	--	--	--
Barron	338	1	--	64	44	--	4	7	--	29	9	5	175	--	--	--
Bayfield	5,161	10	--	4,947	28	--	23	29	--	16	70	16	22	--	--	--
Burnett	86	--	--	3	6	--	7	5	--	6	14	1	44	--	--	--
Douglas	1,274	--	--	1,201	16	--	12	14	--	14	17	--	--	--	--	--
Iron	5,559	--	23	5,356	21	--	9	33	--	17	24	--	71	5	--	--
Polk	236	--	--	18	22	--	5	5	--	62	6	3	115	--	--	--
Price	454	--	37	--	38	--	17	63	--	84	72	16	120	7	--	--
Rusk	625	--	--	96	86	--	8	11	--	70	19	9	326	--	--	--
Sawyer	499	10	30	96	63	--	18	50	--	24	56	4	148	--	--	--
Taylor	321	--	20	3	75	--	9	29	--	46	71	10	58	--	--	--
Washburn	337	--	--	170	17	--	8	8	--	40	11	2	81	--	--	--
Total	15,155	27	137	11,954	451	--	134	310	--	424	437	66	1,203	12	--	--
Central Unit																
Adams	38	--	--	--	--	--	--	5	--	9	4	--	20	--	--	--
Chippewa	101	--	--	2	5	--	5	8	--	7	--	1	73	--	--	--
Clark	167	--	1	--	31	--	8	16	--	10	11	12	78	--	--	--
Eau Claire	10	--	--	--	--	--	--	--	--	4	--	--	6	--	--	--
Jackson	122	--	--	--	4	--	7	7	--	7	5	9	83	--	--	--
Juneau	52	--	--	--	--	--	--	9	--	16	5	--	22	--	--	--
Marathon	357	--	9	18	47	--	7	47	--	68	75	25	61	--	--	--
Marquette	38	--	--	--	--	--	--	15	--	--	--	5	18	--	--	--
Monroe	77	--	--	--	--	--	--	--	--	5	4	5	63	--	--	--
Portage	39	--	--	--	--	--	--	9	--	16	7	--	7	--	--	--
Waupaca	187	--	2	1	12	--	6	15	--	18	20	65	40	8	--	--
Waushara	26	--	--	--	--	--	--	7	--	6	6	--	7	--	--	--
Wood	64	--	--	--	--	--	--	9	--	12	5	--	38	--	--	--
Total	1,278	--	12	21	99	--	33	147	--	178	142	122	516	8	--	--

(Table 21 continued on next page)

(Table 21 continued)

Unit and county	All species	Species group														
		White pine	Ash	Aspen	Bass-wood	Beech	Paper birch	Yellow birch	Cotton-wood	Elm	Hard maple	Soft maple	Red oak	White oak	Walnut	Other hardwoods
Southwest Unit																
Buffalo	281	--	--	1	22	--	--	--	--	10	25	42	181	--	--	--
Crawford	200	--	28	--	--	--	--	--	--	19	--	--	133	20	--	--
Dunn	203	--	--	--	52	--	--	--	--	9	16	--	126	--	--	--
Grant	300	--	29	--	--	--	--	--	--	28	19	5	196	23	--	--
Iowa	55	--	--	--	--	--	--	--	--	11	--	--	35	9	--	--
La Crosse	1,281	--	--	--	--	--	--	--	--	6	--	--	1,202	73	--	--
Lafayette	12	--	--	--	--	--	--	--	--	--	--	--	12	--	--	--
Pepin	49	--	--	--	--	--	--	--	--	4	--	--	45	--	--	--
Pierce	119	--	--	--	--	--	--	--	49	5	--	--	65	--	--	--
Richland	221	--	--	--	25	--	--	--	--	11	23	4	149	9	--	--
St. Croix	49	--	--	--	--	--	--	--	--	4	--	--	45	--	--	--
Sauk	230	--	--	--	5	--	--	--	--	16	27	10	158	14	--	--
Trempealeau	243	--	--	--	62	--	--	--	--	6	--	9	166	--	--	--
Vernon	323	--	--	--	5	--	--	--	--	7	22	5	260	24	--	--
Total	3,566	--	57	1	171	--	--	--	49	136	132	75	2,773	172	--	--
Southeast Unit																
Brown	24	--	--	--	--	--	--	--	--	17	7	--	--	--	--	--
Calumet	10	--	--	--	--	--	--	--	--	6	4	--	--	--	--	--
Columbia	54	--	--	--	--	--	--	8	--	--	--	--	25	10	11	--
Dane	57	--	--	--	--	--	--	--	--	--	--	--	31	13	13	--
Door	58	--	--	--	--	--	6	7	--	30	15	--	--	--	--	--
Green	8	--	--	--	--	--	--	--	--	--	--	--	8	--	--	--
Kewaunee	16	--	--	--	--	--	--	--	--	10	6	--	--	--	--	--
Manitowoc	94	--	--	--	--	--	--	--	--	17	10	--	57	--	10	--
Outagamie	100	--	--	--	--	--	--	--	34	14	8	37	7	--	--	--
Rock	7	--	--	--	--	--	--	--	--	--	--	--	7	--	--	--
Washington	8	--	--	--	--	--	--	8	--	--	--	--	--	--	--	--
Winnebago	7	--	--	--	--	--	--	--	--	3	4	--	--	--	--	--
Total	443	--	--	--	--	--	6	23	34	97	54	37	135	23	34	--
State total	27,250	44	290	12,971	1,042	4	441	1,291	83	1,988	2,321	511	5,939	244	34	47

Table 22.--Veneer log receipts in Wisconsin by area of origin for selected years, 1946-1981

(In thousand board feet)[1/]

Year	All areas	Area of origin				
		Wisconsin	Michigan	Minnesota	Other States	Canada
1946	68,116	28,813	33,834	1,139	919	3,411
1948	71,791	31,553	27,052	4,811	1,066	7,309[2/]
1950	62,935	26,198	19,917	4,919	924	10,977[2/]
1952	59,500	28,899	15,775	5,826	1,516	7,484
1954	59,573	26,527	15,537	7,962	3,286	6,261
1956	66,949	30,298	18,932	7,221	3,405	7,093
1958	43,063	23,488	8,078	7,027	916	3,554
1960	51,298	24,249	8,659	8,380	5,207	4,803
1962	37,517	18,846	4,950	6,177	2,777	4,767
1963	41,918	23,788	5,918	6,148	1,726	4,338
1965	43,104	22,547	8,044	6,111	1,621	4,781
1966	42,162	20,458	8,265	5,207	2,642	5,590
1968	37,571	18,853	8,001	3,518	2,679	4,520
1970	29,896	15,148	7,347	2,951	1,747	2,703
1972	36,491	18,172	10,893	3,457	1,552	2,417
1973	37,804	19,643	10,922	4,083	1,950	1,206
1974	41,605	24,294	10,221	3,486	1,905	1,699
1975	33,294	20,379	9,009	2,136	1,567	203
1976	36,971	20,752	10,280	3,033	2,412	494
1980	27,903	14,299	9,029	2,468	1,587	520
1981	34,540	14,245	14,058	2,501	3,008	728

[1/] International 1/4-inch rule.

[2/] Includes nominal quantity from other countries.

Table 23.--Veneer log receipts in Wisconsin by species group and area of origin, 1981

(In thousand board feet)[1/]

Species group	All areas	Area of origin							
		Wisconsin	Michigan	Minnesota	Iowa	Illinois	Canada	Pennsylvania	Indiana
Softwoods									
White pine	174	44	130	--	--	--	--	--	--
Total	174	44	130	--	--	--	--	--	--
Hardwoods									
Ash	590	290	156	77	10	57	--	--	--
Aspen	572	571	--	1	--	--	--	--	--
Basswood	1,575	1,042	161	305	67	--	--	--	--
Beech	67	4	63	--	--	--	--	--	--
Paper birch	576	441	78	57	--	--	--	--	--
Yellow birch	2,497	1,283	944	10	--	--	260	--	--
Cottonwood	521	83	--	438	--	--	--	--	--
Elm	2,370	1,846	424	76	--	24	--	--	--
Hard maple	12,744	2,321	10,387	18	18	--	--	--	--
Soft maple	1,179	511	613	26	29	--	--	--	--
Red oak	11,293	5,641	1,071	1,441	1,112	780	468	520	260
White oak	338	145	10	52	21	37	--	73	--
Other hardwoods	44	23	21	--	--	--	--	--	--
Total	34,366	14,201	13,928	2,501	1,257	898	728	593	260
All species	34,540	14,245	14,058	2,501	1,257	898	728	593	260

[1/] International 1/4-inch rule.

Table 24.--Fuelwood production from roundwood by species group, Forest Survey Unit and county, Wisconsin, 1981

(In standard cords, unpeeled)[1/]

Unit and county	All species	Species group											
		Cedar	Balsam fir	Hemlock	Jack pine	Red pine	White pine	Spruce	Tamarack	Ash	Aspen	Balsam poplar	Basswood
Northeast Unit													
Florence	11,894	111	--	--	15	25	19	--	--	10	--	--	--
Forest	17,341	--	19	19	--	--	--	--	--	214	403	--	10
Langlade	35,078	--	--	--	141	--	--	--	--	1,174	2,737	--	--
Lincoln	33,695	--	--	--	454	327	204	--	--	470	4,766	--	--
Marinette	23,294	--	--	--	--	--	--	--	--	125	3,540	--	--
Menominee	14,177	--	--	--	--	--	--	--	--	60	--	--	--
Oconto	45,345	--	--	--	--	--	--	--	--	2,000	4,043	--	1,015
Oneida	63,406	134	659	5,812	2,847	2,014	1,698	324	71	131	2,813	--	5,535
Shawano	49,758	--	--	--	--	--	--	--	--	3,752	1,218	--	609
Vilas	25,864	9	6	27	136	5,455	111	39	15	357	45	--	--
Total	319,852	254	684	5,858	3,593	7,821	2,032	363	86	8,293	19,565	--	7,169
Northwest Unit													
Ashland	7,544	462	--	462	--	--	--	476	--	278	23	--	--
Barron	23,144	--	--	--	--	--	--	--	--	1,832	2,305	--	741
Bayfield	32,510	109	218	--	--	--	--	--	--	173	1,352	1	49
Burnett	31,549	--	--	--	1,026	14	12	--	--	224	307	--	--
Douglas	14,757	--	--	--	47	11	12	17	--	2,879	2,914	--	807
Iron	13,411	--	--	--	--	--	--	--	--	55	--	--	4,871
Polk	38,612	--	1309	--	--	--	--	--	--	--	632	--	--
Price	17,838	--	--	--	--	--	--	--	--	90	74	--	9
Rusk	27,663	--	873	--	139	62	148	--	--	738	419	--	--
Sawyer	14,890	--	--	--	--	--	--	--	--	534	2,094	--	--
Taylor	34,559	--	--	--	36	24	40	--	--	1,123	1,621	5	383
Washburn	13,415	--	--	--	184	34	44	--	--	59	421	2	54
Total	269,892	571	2,400	462	1,432	145	256	493	--	7,985	12,162	8	6,914
Central Unit													
Adams	49,645	--	--	--	763	75	127	--	--	316	3,222	--	231
Chippewa	51,151	--	--	--	--	--	--	--	--	3,621	3,834	--	--
Clark	15,031	--	--	--	5	--	--	--	--	2,151	11	--	50
Eau Claire	51,490	--	--	--	--	--	--	--	--	500	21	--	--
Jackson	22,197	--	--	--	--	--	--	--	--	--	24	--	--
Juneau	33,925	--	582	--	2,524	74	187	--	--	652	1,423	--	95
Marathon	89,517	--	--	--	674	228	925	--	--	12,380	3,669	--	99
Marquette	33,684	--	--	--	433	48	171	--	--	473	710	--	--
Monroe	25,268	--	--	--	1	--	--	--	--	500	3,402	--	--
Portage	17,775	111	--	--	--	--	--	--	--	759	4,537	--	--
Waupaca	27,973	--	--	--	19	7	24	--	--	2,133	--	--	--
Waushara	35,503	--	--	--	1374	351	934	--	--	--	128	--	--
Wood	40,114	--	--	--	59	4	12	--	--	--	15,042	--	--
Total	493,273	111	582	--	5,852	787	2,380	--	--	23,485	36,023	--	475

(Table 24 continued on next page)

[1/] 128 cubic feet, consisting of 70 cubic feet of wood and 58 cubic feet of bark and air space.

(Table 24 continued)

Unit and county	All species	Species group											
		Cedar	Balsam fir	Hemlock	Jack pine	Red pine	White pine	Spruce	Tama-rack	Ash	Aspen	Balsam poplar	Bass-wood
Southwest Unit													
Buffalo	10,056	--	--	--	--	--	--	--	--	--	607	--	405
Crawford	6,419	--	--	--	--	--	--	--	--	2	--	--	2
Dunn	38,619	--	135	--	--	--	--	--	--	7,536	4,655	--	--
Grant	56,984	--	--	--	622	610	1,197	--	--	--	4,999	--	--
Iowa	46,790	--	--	--	--	--	--	--	--	815	--	--	--
La Crosse	21,863	--	--	--	--	--	--	--	--	--	--	--	--
Lafayette	1,741	--	--	--	--	--	--	--	--	210	--	--	--
Pepin	21,047	--	--	--	--	--	--	--	--	378	1,548	--	660
Pierce	11,926	--	--	--	--	--	--	--	--	70	--	--	70
Richland	33,841	--	--	--	--	--	--	--	--	--	1,069	--	--
St. Croix	28,740	--	--	--	173	122	110	--	--	--	4,371	--	--
Sauk	48,034	--	--	--	--	--	--	--	--	414	1,756	--	841
Trempealeau	18,845	--	--	--	--	--	--	--	--	--	405	--	--
Vernon	20,398	--	--	--	--	--	--	--	--	--	--	--	--
Total	365,303	--	135	--	795	732	1,307	--	--	9,425	19,410	--	1,978
Southeast Unit													
Brown	19,784	--	--	--	--	--	--	--	510	3,861	712	--	--
Calumet	3,475	--	--	--	--	--	--	--	--	226	--	--	311
Columbia	33,683	--	--	--	6	34	12	--	--	--	315	--	1,896
Dane	47,188	--	--	--	--	--	--	--	--	852	734	--	2,445
Dodge	10,490	--	--	--	5	2	30	--	--	100	151	6	160
Door	15,267	619	291	--	--	--	--	--	--	736	--	--	783
Fond du Lac	6,314	--	--	--	--	--	--	--	--	--	257	--	--
Green	9,923	--	--	--	--	--	--	--	--	--	--	--	--
Green Lake	--	--	--	--	--	--	--	--	--	--	--	--	--
Jefferson	17,753	--	--	--	--	--	--	--	--	1,064	520	--	--
Kenosha	22,019	--	--	--	--	--	--	--	--	100	--	--	--
Kewaunee	8,084	--	--	--	--	--	--	--	--	--	--	--	--
Manitowoc	3,727	--	--	--	--	--	--	--	--	--	213	--	--
Milwaukee	12,158	715	16	84	71	24	238	8	56	297	335	39	100
Outagamie	75,656	--	--	--	2	8	6,528	--	--	8,687	6,320	121	3,603
Ozaukee	21,825	231	3	22	276	--	179	3	35	861	1,488	123	277
Racine	7,394	--	--	--	--	--	--	--	--	95	797	11	32
Rock	23,541	--	--	--	--	--	--	--	--	394	--	--	--
Sheboygan	58,617	--	--	--	--	--	--	--	--	1,272	591	--	--
Walworth	2,642	--	--	--	--	--	--	--	--	--	66	--	13
Washington	14,835	--	--	--	62	15	214	--	--	881	--	--	--
Waukesha	37,708	--	--	--	--	--	--	--	--	417	3,534	8	35
Winnebago	15,576	--	--	--	--	--	--	--	--	--	298	--	--
Total	467,659	1,565	310	106	422	83	7,201	11	601	19,843	16,331	308	9,655
State total	1,915,979	2,501	4,111	6,426	12,094	9,568	13,176	867	687	69,031	103,491	316	26,191

(Table 24 continued on next page)

(Table 24 continued)

Unit and county	Species group											
	Beech	Paper birch	Yellow birch	Cotton-wood	Elm	Hickory	Hard maple	Soft maple	Red oak	White oak	Walnut	Other hardwoods
Northeast Unit												
Florence	--	822	1,391	--	4,998	--	671	27	3,487	--	--	318
Forest	--	640	495	--	12,678	--	2,032	117	478	--	--	236
Langlade	--	349	179	--	18,361	460	8,663	1,068	1,534	--	--	412
Lincoln	--	5,483	1,112	--	7,436	120	5,995	2,184	5,114	--	--	30
Marinette	--	5,746	350	--	730	--	2,021	1,790	8,216	758	--	18
Menominee	--	76	224	--	8,560	96	1,276	946	2,616	323	--	--
Oconto	1,947	11,227	1,859	--	9,714	--	5,974	4,411	3,022	133	--	--
Oneida	--	14,994	1,493	--	359	--	9,594	6,674	8,252	--	--	2
Shawano	--	2,193	1,170	--	10,693	2,625	10,192	2,399	13,967	430	--	510
Vilas	--	3,309	755	--	693	--	8,325	1,153	4,530	542	--	357
Total	1,947	44,839	9,028	--	74,222	3,301	54,743	20,769	51,216	2,186	--	1,883
Northwest Unit												
Ashland	--	145	47	--	278	--	4,587	786	--	--	--	--
Barron	--	623	106	--	3,198	12	560	167	11,416	1,889	--	295
Bayfield	--	3,997	813	--	4,297	--	10,122	2,590	7,988	799	--	2
Burnett	--	1,806	252	--	4,206	--	413	187	18,979	4,123	--	--
Douglas	--	1,449	202	--	--	--	1,171	444	4,074	730	--	--
Iron	--	675	342	--	1,953	--	4,085	1,230	166	34	--	--
Polk	--	525	92	--	25,585	--	187	49	8,333	1,900	--	--
Price	--	713	276	--	8,896	--	5,898	1,828	8	2	--	44
Rusk	--	2,818	777	--	4,653	1,453	2,400	3,521	7,986	1,676	--	--
Sawyer	--	714	196	--	1,567	--	4,735	645	3,662	693	--	50
Taylor	--	1,412	649	--	5,832	752	16,089	5,122	1,230	225	--	16
Washburn	--	1,624	295	--	480	1	1,649	656	6,527	1,378	--	7
Total	--	16,501	4,047	--	60,945	2,218	51,896	17,225	70,369	13,449	--	414
Central Unit												
Adams	--	1,286	149	--	609	52	497	1,041	32,344	8,844	--	89
Chippewa	--	2,990	859	--	6,444	48	3,580	4,416	17,389	4,696	--	3,274
Clark	--	23	--	--	7,480	--	1,506	1,209	2,019	577	--	--
Eau Claire	--	2,638	551	--	1,383	--	333	380	35,739	9,945	--	--
Jackson	--	76	2	--	11,191	--	1,091	1,210	6,773	1,830	--	--
Juneau	--	548	146	--	2,677	18	842	1,280	17,647	5,198	--	32
Marathon	--	5,633	3,698	--	33,597	414	8,775	5,765	9,945	3,044	--	671
Marquette	--	--	--	--	--	--	--	--	24,495	7,354	--	--
Monroe	--	791	172	--	2,895	--	853	908	12,332	3,414	--	--
Portage	--	825	354	--	1,172	--	1,079	961	5,998	1,811	--	168
Waupaca	--	1,368	470	--	2,986	1,605	4,364	3,789	8,450	2,309	--	449
Waushara	--	549	156	--	7,877	--	19	22	18,191	5,305	--	597
Wood	--	1,826	528	--	149	--	3,021	3,542	12,275	3,656	--	--
Total	--	18,553	7,085	--	78,460	2,137	25,960	24,523	203,597	57,983	--	5,280

(Table 24 continued on next page)

(Table 24 continued)

Unit and county	Species group											
	Beech	Paper birch	Yellow birch	Cotton-wood	Elm	Hickory	Hard maple	Soft maple	Red oak	White oak	Walnut	Other hardwoods
Southwest Unit												
Buffalo	--	--	--	--	105	--	1,425	841	4,849	1,824	--	--
Crawford	--	--	--	--	3,188	106	869	546	1,161	439	--	106
Dunn	--	--	--	--	13,104	--	739	416	8,693	2,936	--	405
Grant	--	--	--	--	14,362	1,581	81	--	18,149	6,820	80	8,483
Iowa	--	954	18	--	10,785	--	--	--	21,536	8,045	1,409	3,228
La Crosse	--	478	9	--	3,281	244	4,994	4,072	3,027	1,143	--	4,615
Lafayette	--	--	--	--	518	--	--	--	148	55	--	810
Pepin	--	442	--	109	8,541	620	692	970	4,937	1,849	--	301
Pierce	--	--	--	607	4,511	405	621	188	3,539	1,308	--	607
Richland	--	1,125	33	--	21,331	--	1,856	603	5,676	2,148	--	--
St. Croix	--	298	6	--	12,913	--	281	124	6,547	2,480	--	1,315
Sauk	--	1,492	23	118	14,852	844	1,007	860	17,889	6,691	--	1,247
Trempealeau	--	--	--	--	4,048	--	--	--	10,470	3,922	--	--
Vernon	--	--	--	--	12,795	--	--	--	5,325	1,974	--	304
Total	--	4,789	89	834	124,334	3,800	12,565	8,620	111,946	41,634	1,489	21,421
Southeast Unit												
Brown	--	1,384	426	--	10,726	--	428	157	664	482	--	434
Calumet	--	--	--	--	1,050	--	82	32	1,049	725	--	--
Columbia	--	--	--	4	946	--	75	30	17,965	12,026	--	374
Dane	--	--	--	--	3,152	282	5,107	1,354	19,198	12,407	--	1,657
Dodge	18	26	4	508	5,345	30	124	74	2,013	1,489	4	401
Door	881	6,623	1,071	--	1,198	--	1,346	454	629	502	--	134
Fond du Lac	--	272	64	--	731	158	641	305	863	597	--	2,426
Green	--	--	--	789	6,080	--	807	244	620	431	163	789
Green Lake	--	--	--	--	--	--	--	--	--	--	--	--
Jefferson	--	71	20	--	2,294	495	1,479	550	1,457	1,024	--	8,779
Kenosha	--	--	--	--	1,795	--	4,956	1,417	8,062	5,689	--	--
Kewaunee	--	319	75	--	7,293	--	75	25	170	127	--	--
Manitowoc	--	--	--	--	1,705	--	204	84	194	144	--	1,183
Milwaukee	111	283	57	21	5,325	110	1,456	604	505	365	11	1,327
Outagamie	273	1,218	349	178	28,440	556	7,450	4,019	2,012	1,457	--	4,435
Ozaukee	155	1,700	321	49	2,254	384	3,759	1,927	3,042	2,212	3	2,521
Racine	22	85	17	7	179	1,692	201	100	2,152	1,557	3	444
Rock	--	--	--	--	2,410	276	1,360	731	9,824	6,423	--	2,123
Sheboygan	--	--	--	--	41,508	89	1,720	640	6,290	4,320	--	2,187
Walworth	--	--	--	--	118	53	88	30	1,220	857	--	197
Washington	--	150	47	500	5,737	--	821	353	2,075	1,533	--	2,447
Waukesha	16	757	111	11	7,008	2,803	1,277	666	7,854	5,511	7	7,693
Winnebago	--	525	141	--	5,330	--	--	--	1,497	1,063	--	6,722
Total	1,476	13,413	2,703	2,067	140,624	6,928	33,456	13,796	89,355	60,941	191	46,273
State total	3,423	98,095	22,952	2,901	478,585	18,384	178,620	84,933	526,483	176,193	1,680	75,271

Table 25.--Production of poles, piling, posts, and miscellaneous roundwood products[1/] by Forest Survey Unit, county and species group, Wisconsin, 1981

(In thousand cubic feet)

County	All species	Species group: Cedar	Red pine	Aspen	Paper birch	Hard maple	Soft maple	Red oak	White oak	Other hardwoods
NORTHEAST UNIT										
Forest	94	93	1	--	--	--	--	--	--	--
Marinette	21	21	--	--	--	--	--	--	--	--
Oconto	5	--	5	--	--	--	--	--	--	--
Oneida	16	3	13	--	--	--	--	--	--	--
Shawano	289	269	--	--	--	10	10	--	--	--
Total	425	386	19	--	--	10	10	--	--	--
NORTHWEST UNIT										
Barron	366	--	366	--	--	--	--	--	--	--
Bayfield	8	--	8	--	--	--	--	--	--	--
Burnett	78	--	78	--	--	--	--	--	--	--
Douglas	14	--	14	--	--	--	--	--	--	--
Polk	10	--	10	--	--	--	--	--	--	--
Price	863	863	--	--	--	--	--	--	--	--
Sawyer	21	21	--	--	--	--	--	--	--	--
Taylor	22	22	--	--	--	--	--	--	--	--
Washburn	5	--	5	--	--	--	--	--	--	--
Total	1,387	906	481	--	--	--	--	--	--	--
CENTRAL UNIT										
Adams	42	--	--	--	--	--	--	--	--	42
Chippewa	424	--	424	--	--	--	--	--	--	--
Eau Claire	31	--	--	20	2	--	6	--	--	3
Jackson	45	--	--	41	1	--	2	--	--	1
Juneau	2	--	--	--	--	--	--	--	2	--
Marathon	5	--	--	5	--	--	--	--	--	--
Monroe	3	--	--	--	--	--	--	--	3	--
Portage	84	--	--	--	--	--	--	9	75	--
Waupaca	1	1	--	--	--	--	--	--	--	--
Waushara	2	--	--	--	--	--	--	1	1	--
Total	639	1	424	66	3	--	8	10	81	46
SOUTHWEST UNIT										
Buffalo	294	--	--	197	14	--	55	--	--	28
Crawford	86	--	--	--	--	--	--	6	80	--
Dunn	1,134	--	1,134	--	--	--	--	--	--	--
Grant	30	--	--	--	--	--	--	--	30	--
Iowa	3	--	--	--	--	--	--	--	3	--
La Crosse	184	--	--	159	1	--	4	2	16	2
Lafayette	7	--	--	--	--	--	--	--	7	--
Richland	25	--	--	--	--	--	--	--	25	--
Sauk	147	--	--	--	--	--	--	--	147	--
Trempealeau	315	--	--	213	17	--	55	--	--	30
Vernon	11	--	--	--	--	--	--	--	11	--
Total	2,236	--	1,134	569	32	--	114	8	319	60
SOUTHEAST UNIT										
Columbia	14	--	--	--	--	--	--	--	3	11
Dane	409	--	--	--	--	--	--	6	56	347
Door	81	81	--	--	--	--	--	--	--	--
Green	3	--	--	--	--	--	--	--	3	--
Manitowoc	65	65	--	--	--	--	--	--	--	--
Ozaukee	85	85	--	--	--	--	--	--	--	--
Rock	4	--	--	--	--	--	--	--	4	--
Total	661	231	--	--	--	--	--	6	66	358
State total	5,348	1,524	2,058	635	35	10	132	24	466	464

[1/] Includes cooperage logs, charcoal bolts, and shavings bolts.

Table 26.--Output of roundwood products by type of product and species group, Wisconsin, 1981

(In thousand cubic feet)

Species group	All products	Product					
		Pulpwood	Saw logs	Fuelwood	Veneer logs	Posts	Other products
Softwoods							
Cedar	2,121	--	424	173	--	1,510	14
Balsam fir	9,613	8,249	1,079	285	--	--	--
Hemlock	4,249	2,285	1,514	450	--	--	--
Jack pine	19,023	17,125	1,056	842	--	--	--
Red pine	19,493	14,287	2,482	666	--	1,931	127
White pine	8,821	1,676	6,220	920	5	--	--
Spruce	2,868	2,150	658	60	--	--	--
Tamarack	453	389	17	47	--	--	--
Total	66,641	46,161	13,450	3,443	5	3,441	141
Hardwoods							
Ash	9,938	2,969	2,108	4,819	42	--	--
Aspen	99,551	76,238	13,331	7,238	2,109	152	483
Balsam poplar	240	49	168	23	--	--	--
Basswood	8,228	1,241	4,993	1,828	166	--	--
Beech	721	2	479	240	--	--	--
Paper birch	18,921	10,333	1,627	6,859	67	--	35
Yellow birch	4,847	2,221	825	1,596	205	--	--
Cottonwood	450	2	235	199	14	--	--
Elm	47,026	5,586	7,637	33,490	313	--	--
Hickory	1,682	39	362	1,281	--	--	--
Hard maple	30,038	9,371	7,795	12,487	375	--	10
Soft maple	14,460	5,016	3,304	5,928	80	--	132
Red oak	65,841	4,797	23,219	36,836	965	23	1
White oak	20,189	1,338	6,028	12,321	36	345	121
Walnut	245	--	123	117	5	--	--
Other hardwoods	6,318	285	310	5,252	7	400	64
Total	328,695	119,487	72,544	130,514	4,384	920	846
All species	395,336	165,648	85,994	133,957	4,389	4,361	987

Table 27.--Logging residue generated during roundwood production by species group, Forest Survey Unit and county, Wisconsin, 1981

(In thousand cubic feet)

Unit and county	All species	Species group											
		Cedar	Balsam fir	Hemlock	Jack pine	Red pine	White pine	Spruce	Tamarack	Ash	Aspen	Balsam poplar	Basswood
Northeast Unit													
Florence	2,141	1	122	55	26	49	32	47	3	20	1,117	--	54
Forest	6,080	33	541	107	21	117	64	172	3	76	2,422	--	185
Langlade	3,709	6	155	32	7	73	15	26	3	118	1,596	--	156
Lincoln	3,590	--	81	11	37	112	63	21	7	154	1,718	--	185
Marinette	6,422	20	287	96	405	215	129	101	3	75	3,564	16	109
Menominee	2,958	1	--	529	69	6	294	--	--	26	701	--	167
Oconto	2,899	14	48	27	263	199	31	14	--	41	1,393	9	58
Oneida	5,622	10	495	18	190	272	185	115	12	83	2,580	--	72
Shawano	2,374	89	3	48	29	115	50	--	1	97	522	--	141
Vilas	3,516	1	168	21	171	164	184	60	--	22	1,627	--	22
Total	39,311	175	1,900	944	1,218	1,322	1,047	556	32	712	17,240	25	1,149
Northwest Unit													
Ashland	3,726	5	278	10	116	190	105	90	14	90	1,472	--	57
Barron	754	--	--	--	2	56	27	--	--	20	150	--	47
Bayfield	5,327	--	170	6	511	235	166	93	1	49	3,101	12	8
Burnett	1,711	--	--	--	457	61	18	--	1	8	957	--	5
Douglas	2,969	--	52	--	864	171	14	6	--	7	1,713	6	2
Iron	2,644	4	55	6	33	34	39	26	--	54	1,642	--	43
Polk	844	--	--	--	46	1	7	--	--	34	114	--	64
Price	5,115	122	121	15	27	60	72	39	24	247	1,600	--	297
Rusk	3,552	--	--	3	9	41	55	--	2	161	1,608	51	230
Sawyer	4,442	3	132	11	107	94	95	33	15	120	2,709	--	89
Taylor	2,843	4	54	18	19	80	68	10	6	128	1,191	--	77
Washburn	1,969	--	57	--	252	89	37	26	1	19	1,242	--	8
Total	35,896	138	919	69	2,443	1,112	703	323	64	937	17,499	69	927
Central Unit													
Adams	1,105	--	--	--	327	370	48	--	--	6	16	--	3
Chippewa	2,377	--	--	3	31	87	47	--	3	59	743	--	94
Clark	2,497	--	--	4	71	41	99	--	--	63	866	--	103
Eau Claire	1,202	--	--	--	204	87	89	1	--	14	149	--	11
Jackson	1,284	--	--	--	283	82	94	5	--	10	139	--	16
Juneau	1,347	--	--	--	287	110	51	--	--	12	173	--	16
Marathon	2,442	3	12	43	19	76	40	10	--	74	856	--	138
Marquette	241	--	--	--	30	45	8	--	--	1	15	--	1
Monroe	1,202	--	--	--	148	52	75	--	--	15	51	--	14
Portage	821	--	--	5	93	88	84	--	16	9	199	--	40
Waupaca	1,579	9	1	18	25	100	118	--	--	63	162	1	74
Waushara	438	--	--	--	47	184	38	--	--	12	10	--	2
Wood	1,009	--	--	--	60	38	74	1	--	31	334	--	32
Total	17,544	12	13	73	1,625	1,360	865	17	19	369	3,713	1	544

(Table 27 continued on next page)

(Table 27 continued)

Unit and county	All species	Species group											
		Cedar	Balsam fir	Hemlock	Jack pine	Red pine	White pine	Spruce	Tamarack	Ash	Aspen	Balsam poplar	Basswood
Southwest Unit													
Buffalo	1,603	--	--	--	1	--	6	--	--	14	83	8	72
Crawford	688	--	--	--	--	--	--	--	--	13	6	--	16
Dunn	1,699	--	--	--	84	312	199	--	--	35	71	--	107
Grant	809	--	--	--	--	1	--	--	--	7	6	--	32
Iowa	520	--	--	--	--	--	--	--	--	6	3	--	16
La Crosse	708	--	--	--	1	4	--	--	--	6	16	--	11
Lafayette	31	--	--	--	--	--	--	--	--	--	--	--	--
Pepin	334	--	--	--	4	5	18	--	--	7	8	--	21
Pierce	519	--	--	--	--	--	--	--	--	16	8	--	141
Richland	669	--	--	--	--	--	5	--	--	22	38	--	51
St. Croix	77	--	--	--	--	--	1	--	--	4	1	--	4
Sauk	1,291	--	--	--	36	53	8	--	--	12	55	--	46
Trempealeau	1,435	--	--	--	4	40	20	--	--	8	144	--	43
Vernon	1,302	--	--	--	--	1	7	--	--	24	29	--	51
Total	11,685	--	--	--	130	416	264	--	--	174	468	8	611
Southeast Unit													
Brown	127	1	--	--	--	9	6	--	--	7	13	2	4
Calumet	45	--	--	--	--	--	--	--	--	2	1	--	9
Columbia	405	--	--	--	6	67	7	--	--	6	3	--	11
Dane	193	--	--	--	--	--	--	--	--	--	--	--	5
Dodge	77	--	--	--	--	--	--	--	--	12	--	--	2
Door	98	23	--	4	1	1	5	--	--	4	13	4	5
Fond du Lac	34	--	--	--	--	--	--	--	--	4	--	--	4
Green	82	--	--	--	--	--	--	--	--	4	--	--	4
Green Lake	40	--	--	--	--	4	1	--	--	--	--	--	--
Jefferson	45	--	--	--	--	--	--	--	--	4	--	--	2
Kenosha	8	--	--	--	--	--	--	--	--	--	1	--	--
Kewaunee	145	14	--	6	--	--	5	--	--	14	13	5	6
Manitowoc	275	17	--	7	--	--	11	--	--	19	6	--	11
Milwaukee	9	--	--	--	--	--	--	--	--	--	--	--	--
Outagamie	226	--	--	--	--	1	2	--	--	42	42	--	12
Ozaukee	39	12	--	--	--	--	--	--	--	5	--	--	--
Racine	69	--	--	--	--	--	--	--	--	3	--	--	2
Rock	109	--	--	--	--	--	--	--	--	1	--	--	5
Sheboygan	187	--	--	--	--	--	6	--	--	23	1	--	19
Walworth	64	--	--	--	--	18	--	--	--	4	--	--	--
Washington	91	--	--	--	--	--	--	--	--	16	--	--	4
Waukesha	36	--	--	--	--	3	--	--	--	--	--	--	1
Winnebago	18	--	--	--	--	--	--	--	--	1	--	--	--
Total	2,422	67	--	17	7	103	43	--	--	171	93	11	106
All counties	106,858	392	2,832	1,103	5,423	4,313	2,922	896	115	2,363	39,013	114	3,337

(Table 27 continued on next page)

(Table 27 continued)

Unit and county	Species group											
	Beech	Paper birch	Yellow birch	Cotton-wood	Elm	Hickory	Hard maple	Soft maple	Red oak	White oak	Walnut	Other hardwoods
Northeast Unit												
Florence	--	100	59	--	96	--	265	47	41	4	--	3
Forest	--	351	155	--	692	--	867	167	72	11	--	24
Langlade	41	179	84	--	327	4	618	161	75	6	--	27
Lincoln	4	205	50	16	202	19	333	197	167	--	--	8
Marinette	16	287	36	--	137	--	309	257	297	58	--	5
Menominee	26	12	66	--	561	6	283	105	90	6	--	10
Oconto	21	156	38	4	187	--	147	151	67	29	--	2
Oneida	--	627	77	--	116	--	323	168	257	7	--	15
Shawano	66	33	26	3	351	36	379	114	235	13	--	23
Vilas	--	468	67	--	92	--	241	64	132	10	--	2
Total	174	2,418	658	23	2,761	65	3,765	1,431	1,433	144	--	119
Northwest Unit												
Ashland	--	205	100	--	485	--	329	118	52	5	--	5
Barron	--	9	--	--	53	--	53	17	249	67	--	4
Bayfield	--	352	84	--	178	--	182	64	111	4	--	--
Burnett	--	17	--	--	16	--	16	9	100	46	--	--
Douglas	--	96	1	--	3	--	12	3	19	--	--	--
Iron	--	134	59	--	198	--	190	60	62	4	--	1
Polk	--	4	--	1	59	1	29	9	336	139	--	--
Price	37	391	124	--	883	--	582	265	177	26	--	6
Rusk	5	189	55	--	258	2	309	145	387	35	1	6
Sawyer	5	325	42	--	107	--	285	104	143	13	--	10
Taylor	5	117	101	--	314	--	311	159	161	17	1	2
Washburn	--	73	4	--	20	--	44	28	59	9	--	1
Total	52	1,912	570	1	2,574	3	2,342	981	1,856	365	2	35
Central Unit												
Adams	--	4	1	--	10	--	8	10	227	75	--	--
Chippewa	--	79	24	--	95	1	87	86	747	191	--	--
Clark	--	74	31	--	111	--	183	112	540	193	1	5
Eau Claire	--	9	2	--	21	1	17	34	446	115	--	2
Jackson	--	14	1	--	16	5	10	18	464	125	--	2
Juneau	--	16	--	1	25	2	27	36	455	136	--	--
Marathon	11	59	67	--	212	5	270	141	375	25	--	6
Marquette	--	5	--	--	7	--	10	11	76	32	--	--
Monroe	--	9	--	--	34	15	46	24	563	156	--	--
Portage	--	7	--	--	9	--	14	24	182	50	--	1
Waupaca	9	18	4	--	107	6	143	152	403	159	--	7
Waushara	--	2	--	--	4	--	3	19	83	34	--	--
Wood	--	13	4	--	37	--	38	31	260	55	--	1
Total	20	309	134	1	688	35	856	698	4,821	1,346	1	24

(Table 27 continued on next page)

(Table 27 continued)

Unit and county	Species group											
	Beech	Paper birch	Yellow birch	Cotton-wood	Elm	Hickory	Hard maple	Soft maple	Red oak	White oak	Walnut	Other hardwoods
Southwest Unit												
Buffalo	--	10	--	14	57	21	19	43	1,099	133	1	22
Crawford	--	1	--	1	25	5	32	--	466	112	7	4
Dunn	--	5	--	5	57	4	92	46	571	105	--	6
Grant	--	--	--	5	41	--	18	19	361	294	21	4
Iowa	--	--	--	--	11	5	6	2	302	163	5	1
La Crosse	--	2	--	--	16	12	9	21	516	94	--	--
Lafayette	--	--	--	--	--	--	--	--	5	26	--	--
Pepin	--	--	--	--	13	1	23	8	177	48	--	1
Pierce	--	2	--	7	62	3	118	13	124	25	--	--
Richland	--	--	--	1	24	3	105	11	302	95	7	5
St. Croix	--	--	--	--	8	--	6	4	40	5	--	4
Sauk	--	1	--	1	24	10	42	62	758	168	4	11
Trempealeau	--	11	--	4	24	11	14	39	900	154	--	19
Vernon	--	4	--	4	39	24	91	51	772	200	1	4
Total	--	36	--	42	401	99	575	319	6,393	1,622	46	81
Southeast Unit												
Brown	2	4	--	19	6	--	6	10	25	12	--	1
Calumet	--	--	--	--	2	--	10	4	7	10	--	--
Columbia	--	5	--	1	21	--	19	7	111	135	--	6
Dane	--	--	--	--	2	1	3	2	106	54	6	14
Dodge	--	--	--	1	4	--	8	4	21	20	--	5
Door	8	10	--	1	2	--	5	2	10	--	--	--
Fond du Lac	--	--	--	--	2	1	4	7	8	4	--	--
Green	--	--	--	--	4	--	3	2	37	17	7	4
Green Lake	--	--	--	--	--	--	--	--	18	17	--	--
Jefferson	--	--	--	--	--	1	5	--	12	17	--	4
Kenosha	--	--	--	1	4	--	--	--	1	1	--	--
Kewaunee	4	4	--	4	4	--	5	55	5	1	--	--
Manitowoc	7	5	--	6	4	--	19	101	49	13	--	--
Milwaukee	--	--	--	--	4	--	1	1	1	2	--	--
Outagamie	--	--	--	23	13	--	5	58	13	11	--	4
Ozaukee	--	--	--	--	--	--	--	19	2	1	--	--
Racine	--	--	--	4	4	4	6	4	22	20	--	--
Rock	--	--	--	1	7	1	5	8	42	30	5	4
Sheboygan	6	--	--	1	11	1	19	11	59	30	--	--
Walworth	--	--	--	--	--	2	3	--	20	15	2	--
Washington	--	--	--	--	2	2	16	--	33	18	--	--
Waukesha	--	--	--	1	4	--	3	4	7	13	--	--
Winnebago	--	--	--	--	1	--	--	6	4	6	--	--
Total	27	28	--	63	101	13	145	305	613	447	20	42
State total	273	4,703	1,362	130	6,525	215	7,683	3,734	15,116	3,924	69	301

Table 28.--Residue produced at primary wood-using mills by type of material, type of use and county, Wisconsin, 1981

(In thousand tons green weight)

NORTHEAST UNIT

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Florence								
Fiber products	2.31	11.53	2.30	11.31	.01	.22	--	--
Industrial fuel	.33	1.21	--	--	.33	1.21	.93	4.83
Domestic fuel	.09	.20	.09	.20	--	--	.04	.06
Miscellaneous[4]	1.05	5.27	--	--	1.05	5.27	--	--
Total	3.78	18.21	2.39	11.51	1.39	6.70	.97	4.89
Forest								
Fiber products	.98	19.11	.98	19.11	--	--	--	--
Charcoal	--	.03	--	.03	--	--	--	.01
Industrial fuel	1.49	8.99	.85	2.45	.64	6.54	.72	9.17
Domestic fuel	3.38	2.91	2.22	1.84	1.16	1.07	.64	.78
Miscellaneous[4]	.40	5.74	--	--	.40	5.74	--	--
Not used	.30	.30	.09	--	.21	.30	.04	--
Total	6.55	37.08	4.14	23.43	2.41	13.65	1.40	9.96
Langlade								
Fiber products	--	2.42	--	2.42	--	--	--	--
Industrial fuel	1.31	17.28	.83	10.11	.48	7.17	.35	5.33
Domestic fuel	3.02	4.81	1.94	3.46	1.08	1.35	.75	1.47
Miscellaneous[4]	.21	3.01	.09	1.06	.12	1.95	.04	.45
Not used	.15	1.28	.11	1.15	.04	.13	.04	.50
Total	4.69	28.80	2.97	18.20	1.72	10.60	1.18	7.75
Lincoln								
Fiber products	--	3.34	--	3.34	--	--	--	--
Industrial fuel	--	2.55	--	.42	--	2.13	--	1.59
Domestic fuel	.39	.32	.39	.32	--	--	.12	.14
Miscellaneous[4]	.21	.17	--	--	.21	.17	--	--
Not used	.02	.07	--	--	.02	.07	.04	--
Total	.62	6.45	.39	4.08	.23	2.37	.16	1.73
Marinette								
Fiber products	.47	15.28	.38	10.96	.09	4.32	--	--
Industrial fuel	8.60	20.40	5.46	11.12	3.14	9.28	2.48	10.88
Domestic fuel	1.71	5.31	1.69	5.30	.02	.01	.69	2.25
Miscellaneous[4]	.85	7.64	--	--	.85	7.64	--	--
Not used	.33	.41	.04	.34	.29	.07	.01	.14
Total	11.96	49.04	7.57	27.72	4.39	21.32	3.18	13.27

(Table 28 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulp and flakeboard mills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 28 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Menominee								
Fiber products	.44	2.03	.44	2.03	--	--	--	--
Industrial fuel	13.38	19.39	8.30	11.51	5.08	7.88	3.71	5.70
Total	13.82	21.42	8.74	13.54	5.08	7.88	3.71	5.70
Oconto								
Fiber products	.29	8.16	.29	8.16	--	--	--	--
Industrial fuel	.04	8.46	--	2.03	.04	6.43	.04	3.87
Domestic fuel	.42	5.72	.40	5.69	.02	.03	.15	2.33
Miscellaneous[4]	.37	4.86	--	--	.37	4.86	.09	1.15
Not used	.06	--	.04	--	.02	--	.01	--
Total	1.18	27.20	.73	15.88	.45	11.32	.29	7.35
Oneida								
Fiber products	--	13.68	--	13.68	--	--	--	--
Industrial fuel	.16	11.75	--	--	.16	11.75	--	8.41
Domestic fuel	1.11	6.56	1.11	6.56	--	--	.45	.20
Miscellaneous[4]	.16	.01	--	--	.16	.01	--	--
Not used	.52	.03	.12	.01	.40	.02	.05	--
Total	1.95	32.03	1.23	20.25	.72	11.78	.50	8.61
Shawano								
Fiber products	2.77	32.68	2.32	29.39	.45	3.29	--	.77
Industrial fuel	.39	11.86	--	.96	.39	10.90	.44	8.90
Domestic fuel	1.27	1.23	1.24	1.23	.03	--	.40	.53
Miscellaneous[4]	1.16	6.16	--	.01	1.16	6.15	.55	3.50
Not used	.01	.10	--	--	.01	.10	--	.07
Total	5.60	52.03	3.56	31.59	2.04	20.44	1.39	13.77
Vilas								
Fiber products	17.91	65.77	14.01	43.52	3.90	22.25	--	--
Charcoal	--	1.19	--	.43	--	.76	--	--
Industrial fuel	3.62	2.66	--	.13	3.62	2.53	5.79	18.75
Domestic fuel	.03	.01	.03	.01	--	--	--	--
Miscellaneous[4]	.64	.14	--	.01	.64	.13	--	--
Not used	.06	.01	.03	--	.03	.01	.02	.01
Total	22.26	69.78	14.07	44.10	8.19	25.68	5.81	18.76
All counties								
Fiber products	25.17	174.00	20.72	143.92	4.45	30.08	--	.77
Charcoal	--	1.22	--	.46	--	.76	--	.01
Industrial fuel	29.32	104.55	15.44	38.73	13.88	65.82	14.46	77.43
Domestic fuel	11.42	27.07	9.11	24.61	2.31	2.46	3.24	7.76
Miscellaneous[4]	5.05	33.00	.09	1.08	4.96	31.92	.68	5.10
Not used	1.45	2.20	.43	1.50	1.02	.70	.21	.72
Total	72.41	342.04	45.79	210.30	26.62	131.74	18.59	91.79

(Table 28 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulp and flakeboard mills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 28 continued)

NORTHWEST UNIT

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Ashland								
Fiber products	27.96	13.60	27.96	13.60	--	--	.01	.07
Industrial fuel	.92	21.06	.13	6.84	.79	14.22	9.98	10.66
Domestic fuel	3.02	.16	3.02	.16	--	--	.17	.03
Miscellaneous[4]	17.33	4.54	--	--	17.33	4.54	--	--
Not used	.11	.04	--	--	.11	.04	1.10	.05
Total	49.34	39.40	31.11	20.60	18.23	18.80	11.26	10.81
Barron								
Fiber products	--	6.68	--	4.69	--	1.99	--	--
Industrial fuel	--	5.18	--	3.59	--	1.59	.01	6.37
Domestic fuel	.27	9.07	.26	3.07	.01	6.00	.09	.20
Miscellaneous[4]	.17	2.94	.02	.04	.15	2.90	.02	.04
Total	.44	23.87	.28	11.39	.16	12.48	.12	6.61
Bayfield								
Fiber products	--	.14	--	.14	--	--	--	--
Industrial fuel	--	2.06	--	1.25	--	.81	--	.59
Domestic fuel	.93	.42	.93	.42	--	--	.39	.18
Miscellaneous[4]	.01	--	--	--	.01	--	--	--
Not used	.68	.77	.11	.34	.57	.43	.04	.15
Total	1.62	3.39	1.04	2.15	.58	1.24	.43	.92
Burnett								
Charcoal	.02	5.28	.02	4.99	--	.29	.01	2.12
Industrial fuel	.13	.05	.12	.05	.01	--	.49	.02
Domestic fuel	.25	.13	.25	.13	--	--	.11	.05
Miscellaneous[4]	.12	2.64	--	--	.12	2.64	--	--
Not used	.20	.08	.07	--	.13	.08	.03	--
Total	.72	8.18	.46	5.17	.26	3.01	.64	2.19
Douglas								
Fiber products	1.32	--	1.32	--	--	--	--	--
Industrial fuel	1.20	1.97	.18	.92	1.02	1.05	.46	.39
Domestic fuel	.35	.92	.35	.92	--	--	.14	.39
Miscellaneous[4]	.08	.10	.07	.06	.01	.04	--	.03
Not used	.42	.13	.21	.07	.21	.06	.07	.03
Total	3.37	3.12	2.13	1.97	1.24	1.15	.67	.84
Iron								
Fiber products	--	.32	--	.20	--	.12	--	--
Industrial fuel	--	--	--	--	--	--	--	.09
Miscellaneous[4]	.02	--	.01	--	.01	--	--	--
Not used	.05	--	.03	--	.02	--	.01	--
Total	.07	.32	.04	.20	.03	.12	.01	.09

(Table 28 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulp and flakeboard mills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 28 continued)

County and type of use	Wood residue							
	Total		Coarse[1/]		Fine[2/]		Bark[3/]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Polk								
Fiber products	.14	5.98	.14	5.98	--	--	--	--
Charcoal	.03	3.30	.03	3.30	--	--	.01	1.40
Industrial fuel	.14	3.17	.12	.71	.02	2.46	.08	2.46
Domestic fuel	.16	.53	.15	.43	.01	.10	.06	.19
Miscellaneous[4/]	.22	3.47	--	--	.22	3.47	.02	.37
Not used	.06	.07	.02	.03	.04	.04	.01	.01
Total	.75	16.52	.46	10.45	.29	6.07	.18	4.43
Price								
Fiber products	.47	8.43	.47	6.32	--	2.11	--	--
Industrial fuel	.46	24.40	.11	13.98	.35	10.42	.22	8.51
Domestic fuel	.39	2.67	.39	2.67	--	--	.11	.76
Miscellaneous[4/]	.26	1.33	--	--	.26	1.33	--	--
Not used	.10	.92	.10	.90	--	.02	.08	.77
Total	1.68	37.75	1.07	23.87	.61	13.88	.41	10.04
Rusk								
Fiber products	--	6.74	--	6.02	--	.72	--	--
Industrial fuel	--	--	--	--	--	--	--	2.56
Domestic fuel	.16	.39	.16	.39	--	--	.05	.13
Miscellaneous[4/]	.10	3.92	--	--	.10	3.92	--	--
Not used	.09	1.95	.06	1.81	.03	.14	.03	.80
Total	.35	13.00	.22	8.22	.13	4.78	.08	3.49
Sawyer								
Fiber products	.10	2.89	.10	2.57	--	.32	.04	.01
Industrial fuel	--	2.33	--	.90	--	1.43	--	1.58
Domestic fuel	1.07	1.45	1.07	1.45	--	--	.45	.50
Miscellaneous[4/]	.28	.62	--	.02	.28	.60	--	.01
Not used	.48	.55	.06	--	.42	.55	.02	--
Total	1.93	7.84	1.23	4.94	.70	2.90	.51	2.10
Taylor								
Fiber products	--	.18	--	--	--	.18	--	--
Industrial fuel	3.35	1.08	1.21	.39	2.14	.69	.52	.17
Domestic fuel	3.06	2.94	3.06	2.94	--	--	1.18	.79
Miscellaneous[4/]	.46	1.14	--	--	.46	1.14	.08	.02
Not used	.18	.12	.17	.11	.01	.01	.09	.47
Total	7.05	5.46	4.44	3.44	2.61	2.02	1.87	1.45

(Table 28 continued on next page)

[1/] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2/] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3/] Does not include bark at pulp and flakeboard mills.

[4/] Livestock bedding, mulch, poultry litter, etc.

(Table 28 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Washburn								
Fiber products	--	3.27	--	3.27	--	--	--	--
Industrial fuel	--	5.14	--	1.40	--	3.74	--	2.29
Domestic fuel	.55	.18	.55	.18	--	--	.22	.07
Miscellaneous[4]	.50	.14	--	--	.50	.14	--	--
Not used	.46	.12	.41	.10	.05	.02	.17	.04
Total	1.51	8.85	.96	4.95	.55	3.90	.39	2.40
All counties								
Fiber products	29.99	48.23	29.99	42.79	--	5.44	.05	.08
Charcoal	.05	8.58	.05	8.29	--	.29	.02	3.52
Industrial fuel	6.20	66.44	1.87	30.03	4.33	36.41	11.76	35.69
Domestic fuel	10.21	18.86	10.19	12.76	.02	6.10	2.97	3.29
Miscellaneous[4]	19.55	20.84	.10	.12	19.45	20.72	.12	.47
Not used	2.83	4.75	1.24	3.36	1.59	1.39	1.65	2.32
Total	68.83	167.70	43.44	97.35	25.39	70.35	16.57	45.37
CENTRAL UNIT								
Adams								
Domestic fuel	.18	4.90	.18	4.90	--	--	--	--
Miscellaneous[4]	.02	.86	--	--	.02	.86	--	--
Not used	.09	2.00	--	--	.09	2.00	.08	2.08
Total	.29	7.76	.18	4.90	.11	2.86	.08	2.08
Chippewa								
Fiber products	1.31	19.49	1.12	16.77	.19	2.72	--	--
Industrial fuel	.47	9.96	--	1.85	.47	8.11	.48	7.93
Domestic fuel	.80	10.20	.80	10.13	--	.07	.30	1.56
Miscellaneous[4]	.46	7.38	--	.98	.46	6.40	.06	3.19
Total	3.04	47.03	1.92	29.73	1.12	17.30	.84	12.68
Clark								
Fiber products	--	3.02	--	3.02	--	--	--	--
Industrial fuel	--	5.04	--	2.07	--	2.97	--	2.17
Domestic fuel	1.41	12.38	1.41	11.09	--	1.29	.61	5.15
Miscellaneous[4]	.82	5.12	--	--	.82	5.12	--	--
Not used	--	.04	--	--	--	.04	--	--
Total	2.23	25.60	1.41	16.18	.82	9.42	.61	7.32

(Table 28 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulp and flakeboard mills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 28 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Eau Claire								
Industrial fuel	.34	1.67	.34	1.67	--	--	.29	1.42
Domestic fuel	.67	1.48	.67	1.48	--	--	.03	.03
Miscellaneous[4]	.78	3.65	.34	1.67	.44	1.98	--	--
Not used	.35	.82	--	--	.35	.82	.26	.60
Total	2.14	7.62	1.35	4.82	.79	2.80	.58	2.05
Jackson								
Fiber products	--	1.74	--	1.74	--	--	--	--
Industrial fuel	--	--	--	--	--	--	--	1.40
Domestic fuel	.13	1.83	.13	1.83	--	--	.06	.04
Miscellaneous[4]	.23	2.05	.14	--	.09	2.05	--	.07
Not used	.09	.02	.01	--	.08	.02	.04	--
Total	.45	5.64	.28	3.57	.17	2.07	.10	1.51
Juneau								
Fiber products	.21	2.03	.16	2.03	.05	--	--	--
Industrial fuel	--	1.46	--	--	--	1.46	.03	1.06
Domestic fuel	.22	4.76	.19	3.75	.03	1.01	.12	2.06
Miscellaneous[4]	.24	3.50	.07	.94	.17	2.56	.05	.64
Not used	.09	2.83	.06	2.50	.03	.33	.01	.16
Total	.76	14.58	.48	9.22	.28	5.36	.21	3.92
Marathon								
Fiber products	1.64	21.04	1.14	15.93	.50	5.11	--	--
Industrial fuel	1.20	3.14	1.14	1.83	.06	1.31	.83	6.96
Domestic fuel	1.42	3.52	1.42	3.44	--	.08	.44	.61
Miscellaneous[4]	1.59	6.28	--	.28	1.59	6.00	.16	1.52
Not used	.02	--	--	--	.02	--	.02	.03
Total	5.87	33.98	3.70	21.48	2.17	12.50	1.45	9.12
Marquette								
Domestic fuel	.26	.29	.26	.29	--	--	.11	.12
Miscellaneous[4]	.19	.18	--	--	.19	.18	--	--
Not used	.07	.03	.07	.03	--	--	.03	.01
Total	.52	.50	.33	.32	.19	.18	.14	.13
Monroe								
Domestic fuel	.21	1.16	.21	1.16	--	--	.09	.49
Miscellaneous[4]	2.42	5.79	1.45	3.26	.97	2.53	.62	1.39
Not used	--	.06	--	.01	--	.05	--	--
Total	2.63	7.01	1.66	4.43	.97	2.58	.71	1.88

(Table 28 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulp and flakeboard mills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 28 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Portage								
Fiber products	.35	2.97	.09	2.61	.26	.36	--	--
Industrial fuel	.03	.13	.02	--	.01	.13	.04	1.02
Domestic fuel	1.56	2.32	1.56	2.32	--	--	.66	.99
Miscellaneous[4]	.75	2.38	.03	--	.72	2.38	.02	.09
Total	2.69	7.80	1.70	4.93	.99	2.87	.72	2.10
Waupaca								
Fiber products	1.05	11.42	1.05	11.42	--	--	--	--
Charcoal	.02	.58	--	--	.02	.58	--	--
Industrial fuel	.29	5.06	.01	.02	.28	5.04	.24	3.89
Domestic fuel	.17	.36	.17	.36	--	--	.07	.16
Miscellaneous[4]	.30	2.42	--	--	.30	2.42	.20	1.59
Not used	.13	.87	.01	--	.12	.87	.01	--
Total	1.96	20.71	1.24	11.80	.72	8.91	.52	5.64
Waushara								
Industrial fuel	--	--	--	--	--	--	.18	.74
Domestic fuel	.77	2.85	.77	2.85	--	--	.03	.46
Miscellaneous[4]	.46	1.63	--	--	.46	1.63	.13	.01
Not used	.04	.06	.03	.03	.01	.03	.01	.01
Total	1.27	4.54	.80	2.88	.47	1.66	.35	1.22
Wood								
Fiber products	4.17	15.19	4.17	13.70	--	1.49	--	--
Industrial fuel	.46	1.42	.46	1.42	--	--	--	.68
Domestic fuel	.69	.78	.69	.78	--	--	.15	.21
Miscellaneous[4]	3.12	8.71	--	--	3.12	8.71	2.00	6.03
Not used	--	--	--	--	--	--	.13	.12
Total	8.44	26.10	5.32	15.90	3.12	10.20	2.28	7.04
All counties								
Fiber products	8.73	76.90	7.73	67.22	1.00	9.68	--	--
Charcoal	.02	.58	--	--	.02	.58	--	--
Industrial fuel	2.79	27.88	1.97	8.86	.82	19.02	2.09	27.27
Domestic fuel	8.49	46.83	8.46	44.38	.03	2.45	2.67	11.88
Miscellaneous[4]	11.38	49.95	2.03	7.13	9.35	42.82	3.24	14.53
Not used	.88	6.73	.18	2.57	.70	4.16	.59	3.01
Total	32.29	208.87	20.37	130.16	11.92	78.71	8.59	56.69

(Table 28 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulp and flakeboard mills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 28 continued)

SOUTHWEST UNIT

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Buffalo								
Fiber products	.05	9.77	.05	7.69	--	2.08	--	1.53
Industrial fuel	.04	7.96	--	2.86	.04	5.10	.03	4.95
Domestic fuel	.02	7.97	.02	7.97	--	--	--	.39
Miscellaneous[4]	--	4.48	--	.71	--	3.77	--	1.14
Not used	--	.25	--	--	--	.25	--	.18
Total	.11	30.43	.07	19.23	.04	11.20	.03	8.19
Crawford								
Fiber products	--	7.35	--	4.53	--	2.82	--	--
Industrial fuel	--	6.98	--	6.98	--	--	--	4.20
Domestic fuel	--	2.96	--	2.96	--	--	--	.07
Miscellaneous[4]	--	5.70	--	--	--	5.70	--	1.39
Not used	--	1.55	--	.24	--	1.31	--	.83
Total	--	24.54	--	14.71	--	9.83	--	6.49
Dunn								
Fiber products	.04	2.25	.04	2.25	--	--	.02	.96
Industrial fuel	.74	8.37	.70	7.05	.04	1.32	.33	3.80
Domestic fuel	3.57	4.32	3.55	4.21	.02	.11	.26	.67
Miscellaneous[4]	2.42	6.45	--	--	2.42	6.45	.25	.06
Not used	--	.03	--	.03	--	--	.98	.26
Total	6.77	21.42	4.29	13.54	2.48	7.88	1.84	5.75
Grant								
Fiber products	--	7.70	--	7.70	--	--	--	.15
Domestic fuel	--	3.79	--	3.79	--	--	--	.36
Miscellaneous[4]	.01	9.80	--	2.08	.01	7.72	--	5.15
Not used	.01	.41	.01	.14	--	.27	.01	.20
Total	.02	21.70	.01	13.71	.01	7.99	.01	5.86
Iowa								
Domestic fuel	--	4.43	--	4.43	--	--	--	--
Miscellaneous[4]	--	2.61	--	.01	--	2.60	--	1.85
Not used	--	--	--	--	--	--	--	.05
Total	--	7.04	--	4.44	--	2.60	--	1.90
Lacrosse								
Fiber products	--	29.88	--	28.86	--	1.02	--	--
Industrial fuel	--	18.98	--	2.69	--	16.29	--	13.34
Domestic fuel	--	1.98	--	1.98	--	--	--	.84
Miscellaneous[4]	--	2.21	--	--	--	2.21	--	.07
Total	--	53.05	--	33.53	--	19.52	--	14.25

(Table 28 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulp and flakeboard mills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 28 continued)

County and type of use	Wood residue							
	Total		Coarse[1/]		Fine[2/]		Bark[3/]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Lafayette								
Domestic fuel	.02	.05	.02	.05	--	--	--	.01
Miscellaneous[4/]	.01	.02	--	--	.01	.02	--	--
Not used	--	.01	--	--	--	.01	.01	.01
Total	.03	.08	.02	.05	.01	.03	.01	.02
Pepin								
Fiber products	.51	6.01	.51	5.02	--	.99	--	--
Charcoal	--	2.11	--	2.11	--	--	--	.90
Industrial fuel	.06	--	.06	--	--	--	.24	1.91
Domestic fuel	.01	1.67	.01	1.67	--	--	--	.61
Miscellaneous[4/]	.32	4.14	--	--	.32	4.14	--	.34
Total	.90	13.93	.58	8.80	.32	5.13	.24	3.76
Pierce								
Fiber products	--	1.60	--	1.60	--	--	--	--
Industrial fuel	--	1.58	--	.89	--	.69	--	.63
Domestic fuel	.01	2.77	.01	2.77	--	--	.01	.07
Miscellaneous[4/]	.01	2.38	--	--	.01	2.38	--	1.55
Not used	--	--	--	--	--	--	--	--
Total	.02	8.33	.01	5.26	.01	3.07	.01	2.25
Richland								
Fiber products	--	4.85	--	4.85	--	--	--	--
Industrial fuel	--	.45	--	--	--	.45	--	--
Domestic fuel	.09	2.81	.06	2.81	.03	--	.02	.24
Miscellaneous[4/]	--	4.02	--	--	--	4.02	--	3.02
Total	.09	12.13	.06	7.66	.03	4.47	.02	3.26
St. Croix								
Domestic fuel	--	.06	--	.04	--	.02	--	.02
Miscellaneous[4/]	--	.07	--	.05	--	.02	--	.02
Total	--	.13	--	.09	--	.04	--	.04
Sauk								
Fiber products	--	1.75	--	1.75	--	--	--	--
Industrial fuel	--	.36	--	--	--	.36	--	--
Domestic fuel	.13	7.66	.13	7.66	--	--	--	1.59
Miscellaneous[4/]	.08	13.10	--	5.05	.08	8.05	.06	4.58
Not used	--	.01	--	--	--	.01	--	--
Total	.21	22.88	.13	14.46	.08	8.42	.06	6.17

(Table 28 continued on next page)

[1/] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2/] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3/] Does not include bark at pulp and flakeboard mills.

[4/] Livestock bedding, mulch, poultry litter, etc.

(Table 28 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Trempealeau								
Fiber products	--	2.53	--	2.53	--	--	--	--
Industrial fuel	.05	7.12	.04	3.48	.01	3.64	.01	4.07
Domestic fuel	.03	8.87	.03	8.87	--	--	--	3.61
Miscellaneous[4]	.02	5.03	.01	.01	.01	5.02	--	1.06
Not used	--	--	--	--	--	--	--	.14
Total	.10	23.55	.08	14.89	.02	8.66	.01	8.88
Vernon								
Fiber products	--	3.25	--	3.25	--	--	--	--
Domestic fuel	.03	2.59	.03	2.57	--	.02	.01	.94
Miscellaneous[4]	.01	3.05	--	--	.01	3.05	--	1.54
Not used	.01	.28	--	--	.01	.28	--	--
Total	.05	9.17	.03	5.82	.02	3.35	.01	2.48
All counties								
Fiber products	.60	76.94	.60	70.03	--	6.91	.02	2.64
Charcoal	--	2.11	--	2.11	--	--	--	.90
Industrial fuel	.89	51.80	.80	23.95	.09	27.85	.61	32.90
Domestic fuel	3.91	51.93	3.86	51.78	.05	.15	.30	9.42
Miscellaneous[4]	2.88	63.06	.01	7.91	2.87	55.15	.31	21.77
Not used	.02	2.54	.01	.41	.01	2.13	1.00	1.67
Total	8.30	248.38	5.28	156.19	3.02	92.19	2.24	69.30
SOUTHEAST UNIT								
Brown								
Fiber products	.20	1.30	.20	1.30	--	--	--	--
Industrial fuel	--	.21	--	.08	--	.13	--	.06
Miscellaneous[4]	.12	.76	--	--	.12	.76	.07	.54
Total	.32	2.27	.20	1.38	.12	.89	.07	.60
Calumet								
Domestic fuel	.01	.19	.01	.19	--	--	--	.08
Miscellaneous[4]	.01	.11	--	--	.01	.11	--	--
Total	.02	.30	.01	.19	.01	.11	--	.08
Columbia								
Domestic fuel	.02	.19	.02	.19	--	--	--	.09
Miscellaneous[4]	--	.09	--	--	--	.09	--	--
Not used	--	.02	--	--	--	.02	--	--
Total	.02	.30	.02	.19	--	.11	--	.09

(Table 28 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulp and flakeboard mills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 28 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Dane								
Industrial fuel	--	.80	--	.80	--	--	--	.43
Domestic fuel	.08	1.09	.08	1.09	--	--	.03	.37
Miscellaneous[4]	.05	1.09	--	--	.05	1.09	--	--
Total	.13	2.98	.08	1.89	.05	1.09	.03	.80
Dodge								
Domestic fuel	.01	.07	.01	.07	--	--	--	.01
Miscellaneous[4]	--	.04	--	--	--	.04	--	.03
Not used	--	--	--	--	--	--	--	--
Total	.01	.11	.01	.07	--	.04	--	.04
Door								
Domestic fuel	.24	.15	.24	.15	--	--	.07	.05
Miscellaneous[4]	.13	.08	.03	.04	.10	.04	.01	.02
Not used	.04	.05	--	--	.04	.05	--	--
Total	.41	.28	.27	.19	.14	.09	.08	.07
Fond du Lac								
Domestic fuel	.01	.02	.01	.02	--	--	--	.02
Miscellaneous[4]	--	.04	--	.01	--	.03	--	.01
Total	.01	.06	.01	.03	--	.03	--	.03
Green								
Industrial fuel	--	.13	--	.13	--	--	--	--
Domestic fuel	--	.62	--	.62	--	--	--	.33
Miscellaneous[4]	--	.47	--	--	--	.47	--	--
Not used	--	.26	--	.19	--	.07	--	.08
Total	--	1.48	--	.94	--	.54	--	.41
Green Lake								
Domestic fuel	--	.07	--	.07	--	--	--	--
Miscellaneous[4]	--	.04	--	--	--	.04	--	--
Not used	--	.01	--	.01	--	--	--	.03
Total	--	.12	--	.08	--	.04	--	.03
Jefferson								
Domestic fuel	--	.10	--	.10	--	--	--	.04
Miscellaneous[4]	--	.06	--	--	--	.06	--	--
Not used	--	--	--	--	--	--	--	--
Total	--	.16	--	.10	--	.06	--	.04

(Table 28 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulp and flakeboard mills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 28 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Kewaunee								
Fiber products	.47	7.14	.47	7.14	--	--	--	--
Industrial fuel	.08	1.26	.02	.38	.06	.88	.15	1.90
Domestic fuel	.28	.43	.28	.43	--	--	.09	.18
Miscellaneous[4]	.39	3.76	--	--	.39	3.76	.04	1.11
Not used	--	--	--	--	--	--	--	.16
Total	1.22	12.59	.77	7.95	.45	4.64	.28	3.35
Manitowoc								
Fiber products	.07	.30	.07	.30	--	--	--	--
Industrial fuel	--	3.18	--	1.22	--	1.96	--	.89
Domestic fuel	.22	.51	.22	.51	--	--	.04	.08
Miscellaneous[4]	.48	9.08	.20	5.44	.28	3.64	.13	2.56
Total	.77	13.07	.49	7.47	.28	5.60	.17	3.53
Outagamie								
Fiber products	1.62	8.54	1.62	8.54	--	--	--	--
Industrial fuel	.73	.24	.73	.11	--	.13	.99	2.59
Domestic fuel	.09	.38	.09	.38	--	--	.04	.15
Miscellaneous[4]	1.42	5.18	--	--	1.42	5.18	--	1.09
Not used	--	--	--	--	--	--	--	--
Total	3.86	14.34	2.44	9.03	1.42	5.31	1.03	3.83
Ozaukee								
Domestic fuel	--	.03	--	.03	--	--	--	--
Miscellaneous[4]	--	.02	--	--	--	.02	--	--
Not used	--	--	--	--	--	--	--	.01
Total	--	.05	--	.03	--	.02	--	.01
Racine								
Domestic fuel	--	.35	--	.35	--	--	--	--
Miscellaneous[4]	--	.20	--	--	--	.20	--	--
Not used	--	--	--	--	--	--	--	.15
Total	--	.55	--	.35	--	.20	--	.15
Rock								
Industrial fuel	--	.07	--	.07	--	--	--	.03
Domestic fuel	--	1.29	--	1.29	--	--	--	.55
Miscellaneous[4]	--	.79	--	--	--	.79	--	--
Total	--	2.15	--	1.36	--	.79	--	.58

(Table 28 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

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[3] Does not include bark at pulp and flakeboard mills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 28 continued)

County and type of use	Wood residue							
	Total		Coarse[1/]		Fine[2/]		Bark[3/]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Sheboygan								
Industrial fuel	.01	.34	.01	.23	--	.11	--	.10
Domestic fuel	.09	.32	.09	.32	--	--	--	--
Miscellaneous[4/]	.04	.16	--	.05	.04	.11	--	--
Not used	.03	.51	.01	.24	.02	.27	.04	.26
Total	.17	1.33	.11	.84	.06	.49	.04	.36
Walworth								
Domestic fuel	--	.23	--	.23	--	--	--	.08
Miscellaneous[4/]	--	.13	--	--	--	.13	--	--
Not used	--	--	--	--	--	--	--	.01
Total	--	.36	--	.23	--	.13	--	.09
Washington								
Domestic fuel	.01	.45	.01	.45	--	--	--	.20
Miscellaneous[4/]	--	.25	--	--	--	.25	--	--
Not used	--	.02	--	--	--	.02	--	--
Total	.01	.72	.01	.45	--	.27	--	.20
Waukesha								
Domestic fuel	--	2.89	--	2.89	--	--	--	1.23
Miscellaneous[4/]	--	1.68	--	--	--	1.68	--	--
Total	--	4.57	--	2.89	--	1.68	--	1.23
Winnebago								
Domestic fuel	.05	.85	.05	.85	--	--	.01	.37
Miscellaneous[4/]	.02	.50	--	--	.02	.50	--	--
Total	.07	1.35	.05	.85	.02	.50	.01	.37
All counties								
Fiber products	2.36	17.28	2.36	17.28	--	--	--	--
Industrial fuel	.82	6.23	.76	3.02	.06	3.21	1.14	6.00
Domestic fuel	1.11	10.23	1.11	10.23	--	--	.28	3.83
Miscellaneous[4/]	2.66	24.53	.23	5.54	2.43	18.99	.25	5.36
Not used	.07	.87	.01	.44	.06	.43	.04	.70
Total	7.02	59.14	4.47	36.51	2.55	22.63	1.71	15.89
Total Wisconsin								
Fiber products	66.85	393.35	61.40	341.24	5.45	52.11	.07	3.49
Charcoal	.07	12.49	.05	10.86	.02	1.63	.02	4.43
Industrial fuel	40.02	256.90	20.84	104.59	19.18	152.31	30.06	179.29
Domestic fuel	35.14	154.92	32.73	143.76	2.41	11.16	9.46	36.18
Miscellaneous[4/]	41.52	191.38	2.46	21.78	39.06	169.60	4.60	47.23
Not used	5.25	17.09	1.87	8.28	3.38	8.81	3.49	8.42
Total	188.85	1,026.13	119.35	630.51	69.50	395.62	47.70	279.04

[1/] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2/] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3/] Does not include bark at pulp and flakeboard mills.

[4/] Livestock bedding, mulch, poultry litter, etc..

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Wisconsin timber industry—an assessment of timber output trends. Resour. Bull. NC-90. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station; 1985. 61 p.

Discusses recent Wisconsin forest industry trends; production and receipts of pulpwood, saw logs, and veneer logs; and production of fuelwood and other timber products in 1981. Reports on logging residue, on wood and bark residue generated at primary wood-using mills, and on disposition of this mill residue.

KEY WORDS: Pulpwood, saw logs, fuelwood, veneer logs, residue.